MILITARY SECRETS OF THE XX
CENTURY

A. ORLOV

SECRET BATTLE OF SUPERPOWERS

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FROM THE AUTHOR

"Cold War" - this is how the historical period of the development of civilization, covering almost half a century, began to be called with the light hand of the American journalist Walter Lippman. The victors of fascism in World War II split into two opposing camps: the socialist states led by the Soviet Union and the capitalist countries led by the United States of America. Of course, the ideological confrontation between the two socio-political systems arose even earlier, immediately after the October Revolution in Russia. However, during the joint battles against the fascist-militarist bloc, the allies in the anti-Hitler coalition seemed to find a common language and friendly resolved the problems that arose in the course of the struggle against the common enemy. But no, as soon as the thunder of guns subsided, the USSR and Western democracies found themselves "on opposite sides of the barricades."

However, the era of the "cold war" was strikingly different from the pre-war confrontation of forces of different ideological orientations, as well as from the contradictions of a political, economic nature between individual states or coalitions of previous eras. 5

geostrategic

It was distinguished by the global scope of competing military-political blocs and the emergence of such types of weapons, the use of which would be disastrous for the entire world community. The characteristic features of the "cold war" were: the emergence of superpowers - the United States and the USSR, possessing

unprecedented military power;

the bipolarity of the world, divided into hostile blocs,
led by superpowers;

the presence of nuclear weapons and their means of delivery on both sides, which made it possible to inflict enormous damage on the enemy in a matter of hours; maintaining a high

degree of combat readiness of large groupings of troops (forces) by both sides and their continuous improvement. This made it possible to keep the world on the "brink of nuclear war" for decades.

At the same time, air-atomic and then nuclear missile weapons, considered in the first decades of the Cold War (40-60s) as a decisive means of victory in a general nuclear war, later became a weapon to deter the inevitability of mutual destruction.

due to awareness

In addition, a characteristic feature of the Cold War was the desire of the opposing sides to fill the strategic and geopolitical vacuum in the countries of the "third world" that had formed after the collapse of the colonial system.

As never before, military power has increasingly intervened in politics, and nuclear weapons, in fact, have become a special tool of politics. In this regard, the arms race in order to intimidate a political opponent took the form of both open declarative intimidation by a demonstration of superior nuclear power, and covert, as far as possible, training of new

means of armed struggle. The sides strove suddenly, at the right moment, to demonstrate an even more intimidating weapon than that which the political opponent had.

Therefore, the competition of the superpowers in the nuclear and missile arms race was accompanied by many covert operations, incidents that had extremely dangerous consequences, flexing muscles and bluffing in situations where the international situation sharply escalated, the desire to keep secret the number and capabilities of their arsenals and penetrate the secrets of creating new types of weapons. weapons of the opposing military-political bloc.

All this tense, dramatic struggle of minds, military-industrial complexes, and intelligence networks, hidden from the public, became available to the general public only in recent years, with the collapse of the bipolar world.

So how was it all? Why did the appearance of the atomic bomb in the USSR turn out to be completely unexpected for the US ruling circles? How were atomic weapons created in the USSR? What played a major role in this process: science or intelligence? Why did the United States, which had atomic bombs and strategic bombers, not dare to strike at the USSR, which did not yet have them, although plans for an "air-atomic blitzkrieg" were developed? How did Soviet pilots and anti-aircraft gunners get into the war in Korea, in which the Soviet Union did not participate? Has US intelligence figured out missile secrets?

Khrushchev? What gave rise to the Caribbean crisis, which brought the world to the brink of a nuclear catastrophe? What contributed to the achievement of military-strategic parity between the US and the USSR?

The answers to these and other questions, containing the secrets of the superpowers' nuclear missile race, are the subject of the book offered to the reader. But this book is not only about how it was, but mainly about why it was the way it was, and not otherwise. It remains to add that the author is a participant in many of the events that it speaks of.

CHAPTER I

ALAMOGORDO - MOLDARS: MILESTONES NUCLEAR AGE

Alamogordo and Moldary are small villages, one in the USA and the other in the USSR (now the territory of Kazakhstan). They are separated by almost half the planet: about 15 thousand kilometers. It is unlikely that anyone would ever have known about them if the history of the 20th century had not highlighted their names with the fiery letters of the first atomic explosions of the superpowers opposing each other - the USA and the USSR. The first tests of atomic bombs in America and Russia are separated by only four years: 1945 and 1949, but full of mystery and drama, the history of the creation of the most destructive means of exterminating people, shrouded in secrets, the desperate struggle of the superpowers for the possession and improvement of this "absolute" weapon was conducted for decades. Therefore, these two villages, lost in the deserts of America and Asia, went down in history forever at the dawn of its nuclear era.

1. Task number 13

Colonel Paul Tibbets was outwardly calm. He was generally a cold-blooded person. But inwardly he experienced the greatest excitement. Still would! On board the B-29 strategic bomber, the crew of which he led, was a bomb of unprecedented power. The plane flew over the expanses of the Pacific Ocean. A fateful day in history began - August 6, 1945. The crew of Tibbets had to drop an atomic bomb, affectionately called "Baby", which was supposed to incinerate Hiroshima - a city with a population of many thousands. But that was not what worried him: he had repeatedly dropped bombs on the cities of Japan. This time his plane carried a uranium bomb, which was never used, but was not even tested, because on July 16, the Fat Man plutonium bomb (named, as they say, "in honor" of W. Churchill) was detonated during tests in the USA), a second such bomb could be prepared only a few days later, and US President Truman demanded that an atomic bomb be dropped on Japan no later than August 10th. Why such a hurry? Yes, because in mid-August the Soviet Union was supposed to enter the war with Japan, and in this situation Washington expected that an atomic strike, and

better - two, will force the Japanese to capitulate before the Soviet armies pour into Japanese-occupied China, Korea, and maybe even the Japanese islands. There was another reason for excitement:

"Kid", in his combat gear, was going right now, in flight, by a specialist in this case, Captain I Rank Dick Parsons. He was 12th in the Tibbets plane (crew of 11), as he was the best bomb-builder in the US. It's clear. But why couldn't it be assembled on the ground, at the air base of Tinian Island (Guam Islands), from where the B-29 Tibbets Enola Gay took off (named so, by the way, in honor of the mother of the bomber commander)? But because they were afraid to load the atomic bomb in combat gear into the plane before it took off. And suddenly on

In the most vulnerable moment for aviation—takeoff—something would happen and a bomb would crash over its air base... All

these thoughts worried Tibbets. His crew knew nothing of this. The pilots also did not know that in the pocket of their commander were 12 capsules of potassium cyanide, which the crew had to take in case of "unforeseen circumstances." Only at 3 o'clock in the morning, when about 5 hours remained before the bomb was dropped, Tibbets transmitted by intercom to the crew: "We have on board the world's first atomic bomb." Many of the pilots heard the word "atomic" for the first time. They only knew that they were performing "special combat mission No. 13". The flight continued. It must be said that Tibbets was not alone in this flight of the B-29. According

to the rule established since 1943, he was accompanied by 4 fighters.

In addition, a weather reconnaissance aircraft was flying ahead. At about 0430, the commander of the reconnaissance aircraft, Major Claude Iserli, reported on board the Enola Gay that the weather conditions over Hiroshima were good, and that the Japanese air defense did not notice any signs of preparing to repel a possible air raid.

It was already daylight when the Enola Gay flew up to Hiroshima. The city was easily recognizable in the bright morning sun. Bombardier Tom Ferreby told the commander that he saw the target from afar, in all details, and a second approach would not be needed. At Tibbets's command, he opened the hatch doors - and the five-ton "Kid" smoothly went down, taking a vertical position in flight and aiming exactly at the center of the city.

It was 8 hours 15 minutes. The explosion occurred at an altitude of about 700 meters.

When the B-29, lightened by 5 tons, jumped up, Tibbets laid it in a sharp, 150-degree, right turn. Everyone put on dark glasses. The bomb fuse was designed for a 43 second delay. Having counted to 35, the colonel could not stand it:

"Well, how is it, Bob, can you see anything?" he asked machine gunner Caron over the selector.

— Not at all, sir. But

at that moment a dazzling light burst into the cockpit, and

Caron saw a monstrous spherical mass of air shoot up towards the plane. "As if the ring had come off some planet and rushed

us," he later recalled.

The bomber was thrown up. Then the reflected wave struck a second time. As Hiroshima vanished in a shroud of

smoke and burning, Caron
dictated on magnetic tape:

— A column of smoke... Rises quickly! He has a fiery red shell! Fires are everywhere, fires are spreading... there are so many fires that you can't count them. Here it is, the form, in the form of a mushroom, which Captain Parsons warned about! .. "

Colonel Tibbets spoke clearly into his headset: "Target visually bombed with good results." This message was sent to General T. Farrell, Deputy Chief of the "Manhattan Project" (as the American atomic bomb project was called). The Enola Gay's co-pilot, Lewis, quickly scribbled into his private diary in his lap, "My God, what have we done?" 20 minutes after the bomb went off, Parsons sent another message to General Farrell on Tinian:

“The results are in absolutely obvious in all respects And successful. Immediate action is recommended to implement other plans. The visual effect is greater than Alamogordo. Target Hiroshima. We are heading on board the plane, everything is fine V ”Hiroshima — on Tinian, on [1].

So next to the word And it sounded not Alamogordo. accidental: it was there, in the desert state of New Mexico, on July 16, 1945, the atomic bomb was first tested. But the path to the creation of the most deadly and destructive weapons ran through many countries and lasted for many years. Long before World War II, the attention of world science was riveted to nuclear processes. But until the end

In the 1930s, these were open scientific discussions. Scientists from different countries shared their experience and achievements in
public scientific journals. Studies have shown that nuclear energy is much superior to chemical energy, that its energy potential is colossal. Information is gradually accumulating. The "golden year" of nuclear physics was 1932. It turned out to be truly "fruitful". Chadwick discovered the neutron, Urey obtained heavy hydrogen - deuterium, Cockcroft and Walton in Cambridge first split the lithium nucleus, Anderson discovered the positron. A little later, in 1934, the spouses M. and F. Joliot-Curie discovered artificial radioactivity, and in Rome, Enrico Fermi began his experiments with slow neutrons, studying artificial radioactivity. In 1934, the German chemist Ida Noddack made the assumption that under the action of a neutron on uranium, not neighboring elements arise, as was thought, but the nucleus breaks up into several pieces. But physicists then did not pay attention to what stood behind Noddack's assumption, namely: during the decay of the nucleus,

release a huge amount of energy. Or maybe they missed this idea. After all, if it had perhaps the Then been better (which German physicists did under the Nazis, atomic bomb would have appeared in the Third Reich. In the USSR, the Leningrad Institute of Physics and Technology (LFTI),

headed by A.F. Ioffe, became the foremost center for nuclear research. It was at this institute I. V. Kurchatov, a talented young scientist, has been working since 1925. On December 16, 1932, the LPTI issued an order: A. F. Ioffe: to create a "special nuclear group". before the start of the Great Patriotic War. Already in 1935, the Kurchatov group discovered the phenomenon of nuclear isometry. This world-class discovery was made by the brothers I. V. and B. V. Kurchatov with L. V. Mysovsky and L. I. Rusinov. They proved that the transition of nuclei from the excited state to the ground state occurs with a large time delay.

However, all these important studies and discoveries in different countries were not specific enough, in many respects amorphous, formulated abstractly. The situation changed dramatically in 1939, when the German scientists O.

Hahn and F. Strassmann discovered the fission of the uranium nucleus, and in France F. Joliot and F. Perrin came to the conclusion that the fission of the uranium nucleus by a neutron is accompanied by the emission of several neutrons. There were real prerequisites for the use of nuclear energy through a fission chain reaction, during which huge energy is released. This both delighted and frightened physicists. They understood that atomic energy could be used both for the good and for the destruction of mankind, if used in war. Otto Hahn, having learned about the possibility of creating an atomic bomb, exclaimed: "God will not allow this!" - that during the war years did not prevent him from actively participating in the Nazi "Uranium Project", which, in part, was not implemented. With the outbreak of World War II, and especially after the defeat of France, all publications in the open press about the possibility of creating a "superbomb" were discontinued. The belligerents have given serious thought to this problem. And especially in England, which remained, in essence, one on one with Germany, whose

scientific potential was very high. However, the British government in solving military problems as a whole remained calm and skeptical. "Skepticism was deep and almost universal," as historians later noted. As for the United States, the consciousness of the colossal material resources of the country, as well as the fact that it has become a haven for many anti-fascist physicists who emigrated from Europe, obsessed with the idea of having time to master the secret of super-

powerful weapons before Hitler, quickly set in motion significant scientific forces. Here, apparently, still living in scientific laboratories,

who studied the problems of the atomic nucleus, the spirit of international cooperation
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a group of physicists who resisted any attempt to impose a different way of thinking on them, to divide them into opposing clans, fenced off from each other by a wall of secrecy, national egoism. The famous school of Rutherford's Cavendish Laboratory was passed by scientists from different countries, including Soviet ones: P. L. Kapitsa, Yu. B. Khariton, K. N. Sinelnikov, A. I. Leipunsky. A very characteristic statement against the idea of total classification of science by P. L. Kapitsa is already during the war, when both in the USA with the help of the British and in the USSR work on the creation of an atomic bomb was in full swing, he wrote in September 1944: “... narrow selfishness, imagining that one can take without giving, can only be the politics of a stupid person. No wonder the Holy Scripture says: "The hand of the giver will not fail." Life experience shows that narrow egoism, both in the life of an individual and in the life of a state, is never justified . The situation in England began to change only in the spring of 1940. In March, a short document appeared on the desk of the Chairman of the Air Defense Committee, G. Tizard, which immediately changed the attitude of the leaders of the British nuclear program to the use of science for the defense of the country. Three pages of typewritten text prepared by physicists Otto Frisch and Rudolf Peierls from the University of Birmingham, who emigrated from Germany (and for security reasons were not allowed to work secretly on equipping the British armed forces with the latest equipment), forced those who were engaged in scientific and technical developments on defense topics to take a fresh look at atomic physics. This document, known as the Frisch-Peierls Memorandum, was so explosive that it set British government officials ablaze in an instant. It was called modestly: "On the creation of a "superbomb" based on a nuclear chain reaction in uranium." Its authors convincingly showed that the creation of an atomic bomb is practically possible, despite

complexity
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an industrial method for obtaining pure or almost pure uranium-235 and the complexity of the manufacturing technology of the bomb itself. Frisch and Peierls also predicted the deadly effect of radiation that persisted for a long time after the explosion, from which they see no possibility of finding protection. This prediction was accompanied by a statement by scientists about the immorality of the use of the atomic bomb, since this weapon of mass destruction brings death primarily to the civilian population, whose insecurity becomes absolute. “We do not have information,” wrote Frisch and Peierls, “whether the same idea came to other scientists, but since all the theoretical data related to this problem,

published, it is quite possible that Germany is already developing these weapons .

So, preempting Hitler in creating an arsenal of deterrence in the form of a stockpile of atomic bombs became the most important task of the countries that fought against Germany.

In addition, by this time it was already becoming more and more clear to London that the “strange war” could not be ended by a compromise with Hitler and that its transition to an active phase would require the exertion of all the forces and intellectual resources of the nation. The defeat and capitulation of France in May-June 1940, the exit of the Wehrmacht to the shores of the English Channel put England on the brink of disaster. In fact, England was left face to face with Nazi Germany, which had conquered almost all of Europe and was planning to throw across the English Channel. In the absence of allies, in the face of complete uncertainty about the prospects for maintaining the security of sea lanes linking them with the United States and Canada, the British had no choice but to search for any means and ways to ensure the survival of their nation as a sovereign state. Under these conditions, everything that could strengthen the defense of the country, bring it forward in military-technical terms, was put in the forefront, despite the severity of material costs. It was decided to immediately start developing a whole range of measures to start 15

movement towards one goal - the production of an atomic bomb. These measures provided material, intelligence and diplomatic support for the organizational, preparatory cycle of work and included, in particular, establishing contacts with the US government, and through it, with American scientists in the field of nuclear physics. The first steps were taken in the greatest secrecy, everything was strictly classified. For the purpose of secrecy, a special subcommittee under the Committee on Scientific Questions of Air Defense, set up headed by Professor Thomson, was to develop the concept of the atomic bomb project. The project was codenamed "Tube Alloys", which can be translated as "tube alloys"4 . The significance of the

new weapon in London was fully realized, and by that time it was considered by politicians as the most important prerequisite not only for strengthening the country's defense capability, but also for ensuring its future as a great power. It is for this reason that the Thomson Subcommittee, in its first reports, proceeded from the advantage for England of independent implementation of this project. Churchill, now especially concerned about the preservation of the power of the British Empire, was ready to try this dangerous path. After the British secret services helped the German scientists G. von Halban and L. Kovarsky to move to England and smuggle the results of their research from Paris along with a supply of heavy water, the Prime Minister’s confidence in the reality of achieving the goal

increased. Cabinet member J. Anderson became the head of the project. The "Thomson Subcommittee" ceased to exist: it disappeared, hiding behind an innocent sign of either a technology company, or a laboratory at a pipe-rolling plant ... By that time, a very important phase had been passed in the United States in involving
the state authorities in organizing research in nuclear physics. The main initiative in this belonged to the Hungarian émigré physicist Leo Szilard. In the summer of 1939, alas, he unsuccessfully tried

to interest the US military departments in financing experimental work. Faced with the passivity of military officials, Szilard chose a different path, which turned out to be unexpectedly the most effective. He arranged a meeting with Albert Einstein. Szilard hoped to persuade the famous scientist to seek support from the government, Einstein agreed with Szilard's arguments, but expressed doubt that they would be able to overcome the government bureaucracy. Then Szilard suggested that Einstein write a message to President F. Roosevelt, and he took over the organization of the delivery of this letter to the addressee. He knew Alexander Sachs, vice president of one of the leading industrial corporations, an economist who was involved in many government agencies in the early years of the New Deal. President Roosevelt knew and appreciated this energetic man, a native of Russia. Sachs undertook to arrange Bqe for a "breakthrough" into the White House. Sachs was understandable and close to Szilard's fears, he himself was an ardent supporter of decisive measures to

to prevent the spread of the fascist danger. Invited in early March 1939 to address the audience and faculty at the Naval Academy at Annapolis on the growing threat of war, Sachs prepared a thesis that he called "Notes on the Approaching War and the General Cultural Crisis in the Interwar Period."

After this report was listened to with great attention by the audience, Sachs sent his main theses to President Roosevelt. Then this document will become "the basis for substantiating the project to create an atomic bomb." Stating the threat looming over Europe and the
inevitability of a war between the Western democracies and Germany (this was in March 1939, after Hitler had seized the entire territory of Czechoslovakia and Memel), Sacks wrote: “Western civilization, and especially the exceptionally advantageously and happily located United States, has there is still time to prepare for reflection increased 17

threat of aggression from Nazi Germany."5 Both Sachs, a native of Russia, and Szilard, a Hungarian, were well aware of the ability of the Germans to seriously take up the matter and bring it to

the end and understood what the delay in military training could turn out for America. Szilard grew cold at the thought that somewhere in the Berlin laboratories of the Kaiser Wilhelm Institute, the staff of Professor Werner Heisenberg had advanced faster and further than the British or the Americans... Hungary. A letter was drawn up to the President of the United States, signed

by Einstein, and Sachs undertook to deliver it to Roosevelt, to whom it was handed on August 15, 1939. This message to the president was written in very cautious terms, but the main idea was expressed with the utmost precision: science has made it possible to create a terrible type of weapon - the enormous destructive power of the atomic bomb; the threat of Nazi Germany getting hold of its secret requires the development of work on this new weapon in the United States without delay.

Sacks did not immediately manage to get a meeting with the president. The political crisis, growing every day in the summer of 1939, ended with the German attack on Poland. The world of Anglo-French-Soviet Failed exploded. German August 23, a Soviet- negotiations in Moscow; On non-aggression pact was signed; On September 1, German tanks crossed the Polish border; On September 3, England and France entered the war on the side of Poland. Five days later, Roosevelt declared a national emergency and focused all his efforts on lifting the arms embargo on warring nations in order to help the democracies of the West. Finally, on October 11, Sachs showed up at the White House. But, alas, almost an hour's conversation did not move things forward much. The president was not persuaded
by the arguments of Einstein, Szilard, and Sachs that the US government should

slowly start financing an expensive project. However, parting, Roosevelt invited Sachs to meet the next day. At this meeting, Sacks made many arguments in favor of the proposed project. He recalled the instructive story of the salvation of England during the Napoleonic wars during the days of the continental blockade only because of the short-sightedness of Napoleon, who rejected the proposals of the American inventor Fulton to build a steam-powered fleet capable of crossing the English Channel in any weather and appearing in the most unexpected places for the enemy. Sachs also conveyed the opinion of English physicists about the terrible destructive power of these weapons. The president then asked, "Alex, are you concerned that the Nazis don't blow us up?" "That's right," Sax replied. After that, the president called his military assistant, General Edwin Watson, to the office. Handing him the papers Sax had brought with him, he said, "This calls for action." So the arguments of Einstein-Szilard-Sachs acquired

necessary persuasive power.

A Uranium Committee was formed, chaired by the head of the Bureau of Standards, Lyman Briggs. Dissatisfied with the burden that had fallen on him, Briggs was distrustful of scientists who developed ideas he did not understand. And the military leaders who received the presidential order did not hide their skepticism, although they did not refuse funds.

In desperation, physicists decided to turn again to Roosevelt for support. On March 7 and April 25, 1940, the same Sachs handed over to the president one after the other two new letters from Einstein. The first contained a warning: "... interest in the uranium problem in Germany has increased," and the second developed the idea of a special government body that could independently solve all the practical problems associated with work on the atomic bomb. The war unfolding in Europe prompted the US government to take more active steps in deciding the

the nuclear project. The capture of Sweden and Denmark by the Germans, the rapid defeat of France, unexpected for the whole world - in just 44 days, the evacuation of British troops, who left all heavy military equipment near Dunkirk, to Great Britain - all these events made Hitler the complete master in Western Europe. Washington became more and more aware of the growing danger of fascist aggression for the United States as well. The restructuring of industry for military needs began, and the armed forces were strengthened. Much attention was paid to the problems of achieving military-technical superiority over Germany. They knew that the "German gloomy genius" could prepare the most cruel surprises in the field of military

technology.

On June 27, 1940, Roosevelt appoints Dr. W. Bush, president of the Carnegie Institution, to direct the government's entire defense research program. The nuclear problem passed into the competence of the National Committee for Scientific Research for Defense (NCNS), headed by W. Bush. Now it was up to the committee to engage in dialogue with the scientists who first sounded the alarm: Szilard, Fermi, Wigner, and Heller.

At first, ties with England were established without complications. In London, after the defeat of France, they looked very pessimistically at the chances of British science in independently solving the problem formulated in the Frisch-Peierls Memorandum. The diversion of forces and means to solve the extensive day-to-day tasks of defense made it impossible to organize large-scale work to create an atomic bomb. On July 8, 1940, the British ambassador to the United States, Lord Lothian, in a letter to Roosevelt notified him of his government's readiness to share military secrets with the Americans. The British expected that the United States would bear all the costs of setting up the laboratory and industrial base of the project. Washington responded immediately. There was an exchange

groups of scientists. In September 1940, Henry

Tizard at the head of the British delegation appears in the United States, and in February 1941, Dr. James Conant, the rector of Harvard University, who shortly before became the deputy of W. Bush, went to England. The British acquaint Bush and Conant with the contents of the Frisch-Peierls Memorandum, and the Americans learn that the creation of an atomic bomb will require not tons, but only 5 to 10 kilograms of enriched uranium, and that, provided proper financing and supply of raw materials, the time frame for its creation can be reduced to two years. The participation of the British and Bush's confidence that the creation of an atomic

bomb is within the capabilities of US science and industry find understanding in the presidential administration. Special missions of both sides are being set up in Washington and London for the purpose of exchanging scientific and technical information of defense importance. And in June 1941, the Americans receive a copy of the secret "Report of the Thomson subcommittee on the use of uranium for the production of the atomic bomb." Acquaintance with this report shortens the Americans' search stage of work on the atomic bomb, giving a fairly clear idea of their overall scope, prospects, and many important conditions for scientific and technical support. Bush and his associates in the NCNC are getting another argument in favor of speeding up the work. Hitler's aggression against the USSR sharply accelerates their course. It was decided to act without missing a single day. The pace and rhythm of preparatory activities increase many times over.

In June 1941, the Office for the Management of Research Activities was formed with great rights and powers. It was headed by W. Bush. NKNS is part of the newly formed department. It was decided that a highly classified department of management - Section I would take over the leadership of the work on the creation of atomic weapons. No one knew about its existence, with the exception of Vice President G. Wallace, V. Bush, D. Conant, Secretary of War G. Stimson and Army Chief of Staff General D. Marshall. They made it like this

called the Political Committee, which deals with the general strategy of the government in the field of the use of atomic energy for military purposes. Henry Wallace was its nominal chairman, with President Roosevelt and his special assistant, Harry Hopkins, setting the general line of his activities. All major decisions of the "atomic matter" were made at the extremely important meeting of Roosevelt, Wallace and Bush on October 9, 1941. The international aspects of the atomic problem attracted Roosevelt's attention from the very

beginning. This is evidenced by the fact that already on October 11, 1941, the President sends a letter to Churchill, in which he invites the Prime Minister to act as a partner in the area that falls within the competence of the Thomson Subcommittee in England and the Bush administration.

in USA. Roosevelt writes about the importance of coordinating work, or even "co-producing it." Exactly one month later, the president has one more reason to look at the problem as an increase in joint efforts with the allies in the war against fascism. On December 7, 1941, the Pacific War began with a Japanese attack on the
US naval base at Pearl Harbor. America entered World War II.

On the same day, the uranium-235 necessary for the production of the atomic bomb was obtained at the old Lawrence Radiation Laboratory in Berkeley, California.

In the early spring of 1942, Szilard, Fermi, Wigner and other scientists who settled in Chicago under the roof of a secret laboratory ("Metallurgical Laboratory") did not leave the feeling that the US government was unacceptably slow and that soon the Nazis, ahead of the US, would receive an atomic bomb. Many thought that the war was almost lost, unless a miracle saved the allies. In order to achieve this "miracle", groups of outstanding scientists and talented youth were formed, capable of promptly substantiating the scientific concept of atomic weapons. Of course, the results of research in England and the USA became a necessary solid basis for continuing the work, but their generalization in a complete theoretical

the model was yet to be made. And at this stage, Robert Oppenheimer, a scientist and practitioner, a colleague of Lawrence at the University of California, becomes the leader. Chicago and Berkeley are becoming strongholds of scientific mobilization on the atomic problem. Arthur Compton, Nobel Prize winner, head of the Metallurgical Laboratory in Chicago, and Robert Oppenheimer, professor at the University of Berkeley, become generators and coordinators of the activities of all scientific teams that were to "create a miracle." In March 1942, W. Bush was already able to inform the president that all the data and experiments showed -

they will create a bomb in 1944, and its power will surpass all calculations made. Upon receiving this news, Roosevelt felt it necessary to hurry the scientists. Gaining time is, he wrote to Bush in a special memorandum, "the crux of the matter."

The breakout period is over. In Bush's words, "a race to implement" has begun. Guided solely by the interests of the case, he proposed that the practical completion of the project be entrusted to the army and the War Department with their
powerful corps of engineering troops. In the fall of 1942, such a decision was made by the president. This is how an
organization was born, unknown until then in the history of the United States: both in terms of the scope of its activities, and in terms of financial capabilities, and in terms of its share in the structure of the military economy, in terms of how directly, harshly, with the strictest secrecy, it submitted only to the president. Congress even

was not made aware of its existence. In September 1942, Colonel of Engineers Leslie Groves, an energetic builder of the Pentagon, was assigned the duties of the immediate head of this grandiose program, absorbing a huge part of the national intellectual, technical, financial and other resources. The code name was given to the new giant enterprise, which has located its enterprises and scientific centers in 19 states and Canada - "Manhattan Engineering Project".

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Leslie Groves, promoted to brigadier general in connection with the new appointment, was soon included in the Political Committee, which included Bush, Conant, Wallace, Stimson and Marshall. In the spring of 1943, the administrative management structure finally took shape in the form in which it existed until the end of the war. In anticipation of solving the purely military problems of the use of the atomic bomb, Roosevelt appoints Secretary of War Stimson as head of this political staff, making him, in fact, responsible for everything related to the overall life support of the project, minus purely scientific matters. Stimson is assisted by two of his assistants, privy to the secrets of the secret "Manhattan Project": Boston lawyer Harvey Bundy and experienced administrator George Garrison. The influence of Robert Oppenheimer is silently recognized and rapidly growing - and now the choice falls on him when deciding on the issue of the scientific supervisor of the project. So Stimson, Bush, Groves and

Oppenheimer,

A threat from a competitor in the ongoing race for new weapons "capable of winning the war"; the president's demand to catch up as soon as possible; creation of a coherent organizational structure of the project, ensuring close interaction between science and production; generous funding and, finally, the promotion of talented, energetic and ambitious leaders to the first roles - all this had an immediate effect. The laboratory base is rapidly developing, plants for the enrichment of uranium-235 and for the construction of industrial reactors in Oak Ridge (Tennessee) and Hanford (Washington) are growing. At the insistence of Oppenheimer, a secret scientific center is being created in Los Alamos, New Mexico, where outstanding scientists and experimenters of various specialties are concentrated - brave and gifted people capable of making extraordinary decisions. Giant industrial concerns are involved in the work on the project,

university centers and engineering and technical services of the army, navy, aviation.

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The crushing defeat of Paulus' army at Stalingrad, the defeat of Rommel at El Alamein, the landing of American and British troops in North Africa - this led to a turning point in the war in favor of the Allies. Particularly favorable for the US and

England was that the Red Army launched a decisive offensive on a huge 6,000-kilometer front. The allies' fears about "keeping Russia in the war" disappeared, and it became possible to allocate more funds for equipment, building up industrial capacities, and attracting new specialists in atomic problems. So, grinding the Wehrmacht and diverting all German resources on the Soviet-German front, the Red Army contributed to the "Manhattan Project". The Manhattan Project was conceived on a grand scale. At the disposal of Groves was transferred 2 billion dollars. Union Carbide Chemical

Corporation, which has long supplied explosives to the military department, has started building a uranium-235 enrichment plant. In the valley of the Tennessee River, the city of Oak Ridge arose with 80 thousand inhabitants who worked at this enterprise. The physics laboratory at the University of California at Berkeley served as the experimental base for the Oak Ridge plant. Another secret city - Hanford - with 60,000 inhabitants grew up in a barren desert on the south bank of the Columbia River. The famous physicist Enrico Fermi directed the design and construction of industrial reactors for the accumulation of plutonium there.

Theoretical research and experiments related to the "Manhattan Project" were carried out in the metallurgical laboratory in Chicago, as well as at the universities of Harvard, Princeton and Berkeley. All work was carried out in the strictest secrecy. As
General Groves later recalled, keeping the secret boiled down "to three main tasks: to prevent the Germans from getting any information about our program; to do everything possible to ensure that the use of a bomb in a war was a complete surprise for pro

tivnik; and, as far as possible, to keep secret from the Russians our discoveries and the details of our projects and factories .

In the spring of 1945, the atomic bomb, or rather, its sample, which should have been tested, was almost ready. On May 10, 1945, a committee met at the Pentagon to select targets for the atomic bombing. The members of the committee agreed that large settlements that were not affected by the raids are best suited for this purpose. On their recommendation, the commander of the 20th Air Army, General K. Limay, was ordered to exclude four Japanese cities from the schedule of conventional massive bombardments. This list, which puzzled American pilots, included Hiroshima, Kokura, Niigata, and Nagasaki. They were "saved" for an atomic strike.

On May 31, 1945, the Provisional Committee on Problems of Atomic Weapons met at the Pentagon. It was dominated by the military and politicians. Scientists were invited only with an advisory vote as part of the so-called advisory group. The agenda was formulated as if the question of the use of atomic weapons against

Japan was not at all in doubt. Pentagon officials insisted on the need to use atomic bombs, citing the heavy losses that American troops had suffered in the bloody battles on Okinawa for the second month now. (In total, about 13 thousand Americans died there.) We listened to the opinion of scientists. Oppenheimer expressed the point of view of the entire

advisory group: before the combat use of a new weapon, it is desirable to make a preliminary demonstration of it in the presence of representatives of the world community. After a heated discussion, the Provisional Committee comes to the following conclusion: atomic weapons should be used against Japan without prior warning, as soon as possible and against such targets as will most clearly demonstrate their destructive power. Three weeks later, the US government decides to drop atomic bombs on Japan.

On July 16, 1945, an American atomic bomb was successfully detonated at a test site in New Mexico. The landfill is called Alamogordo. So this village goes down in history.

2. Laboratory No. 2

The Soviet Union by the beginning of World War II also
there were impressive achievements in the field of nuclear physics.

In the middle of 1939, Soviet physicists Yu. B. Khariton and Ya. B. Zel'dovich calculated the chain reaction of uranium fission and came to the conclusion that an explosive reaction could be obtained in the pure uranium-235 isotope. In 1940, in the laboratory of I. V. Kurchatov, his students G. N. Flerov and K. A. Petrzhak discovered the phenomenon of spontaneous fission of uranium. Kurchatov had the most direct relation to this discovery, but he crossed out his name from the scientific report, "so as not to obscure his students." To the credit of our Academy of Sciences, it should be noted that at the end of

1938 it put the problem "The atomic nucleus, its properties, structure and use of nuclear reactions" in the first place among all works in physics, calling it "the most shocking problem of modern physics."

Kurchatov presciently understood that the colossal energy of uranium fission, if you learn how to control it, will go to the benefit of mankind. This is what he aimed his team and all whom he could captivate and convince, he saw the meaning of his whole life in this. In 1940 there was already a clear understanding

that society
stands on the threshold of a scientific and technological
revolution. On July 30, 1940, the Presidium of the Academy of Sciences of the USSR adopts a resolution on the creation of a commission on the problem of uranium. V. G. Khlopin, the largest radiochemist of our country, was appointed chairman of the uranium commission, V.

I. Vernadsky and A.F. Ioffe. The commission includes I. V. Kurchatov, P. L. Kapitsa and Yu. B. Khariton.
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In November 1940, the annual All-Union Conference on Nuclear Physics was held in Moscow. It was the last on the eve of the war and the last where uranium fission was openly discussed. Speaking with a report and speaking about the fundamental possibility of a chain reaction, I. V. Kurchatov utters prophetic words: "A chain is possible and vital." Here it is appropriate to tell, at least briefly, about the main milestones in the life of this outstanding physicist, academician

of the Academy of Sciences of the USSR, three times Hero of Socialist Labor (1949, 1951, 1954). Igor Vasilyevich Kurchatov was born on January 12, 1903 in the city of Sim, Chelyabinsk Region. In 1923 he graduated from the Faculty

of Physics and Mathematics of the Crimean University. In 1924, he began research work in the field of dielectric physics at the Baku Polytechnic Institute.

In the winter of 1924, Kurchatov, on behalf of Professor Obolensky, conducts his first independent study, measuring the alpha radioactivity of snow. This is his first touch on the problem, which will become the main one for him in the early 30s. In the summer of 1925, Kurchatov went to Leningrad, to the Physics and Technology Institute, where
he was invited by Academician Ioffe. He was accepted to a freelance position as an engineer-physicist of the 1st category. In 1930, Kurchatov himself was in charge of a large physical department, which included "shock brigades". In 1934, he was approved as a full member of the institute. Very soon Kurchatov makes his first scientific discoveries. Together with his brother, B.V. Kurchatov, and friend, P.P. Kobeiko, Igor Vasilievich in 1929 discovers a whole class of new substances, which he calls ferroelectrics. In September 1934, for his work on ferroelectrics, dielectrics and semiconductors, Kurchatov was awarded the degree of Doctor of Physical and Mathematical Sciences without defending a dissertation. Two months later, the scientific council of the Institute of Physics and Technology presents him as a candidate for election as a correspondent member 28

Academy of Sciences of the USSR in the category of physical sciences. In a letter dated November 13, 1934, Academician Ioffe wrote to the Secretary of the Academy:

"AND. V. Kurchatov is one of talented young physicists
the Soviet Union. For 10 40 years of his scientific activity of scientific He
printed research, the vast majority of which gained great importance.
Particularly remarkable is the group of works by Rochelle salt. These works have
already created a great literature in Germany, Switzerland, France
3>
V
And

America. Another area where behind 1 year Kurchatov With employees gave
more 10 works, installed a large number of new

fundamental factors And patterns, — this area

nuclear reactions. The third area studied by Kurchatov is — These are electrical breakdown dielectrics are remarkable And semiconductors. Here, especially the properties of dielectrics, the study of the carborundum rectifier, the Faraday effect, the Kerr law and polarization phenomena. all these areas of Kurchatov's work occupy in the scientific literature, V And

prominent place of ferroelectricity V A work By are classical" [7].

Then, as a corresponding member of the Academy of Sciences of the USSR I.V. Kurchatov was not elected.

By the end of the 1930s, Soviet nuclear physics came up with outstanding results. The first generation of nuclear physicists has grown up. "First among equals," as Ioffe put it, was Kurchatov.

It is natural that in the summer of 1938 the scientific council of the LPTI for the second time nominates Kurchatov for election, but already as a full member of the Academy. The Institute is supported by the Pedagogical Institute named after M. N. Pokrovsky. Its description notes:

"... Kurchatov is a prominent Soviet scientist, whose scientific research work testifies to the most difficult areas not only received wide new searches technology, but also O him in 29 ties of modern physics, the paths that he paves for the research work of young Soviet scientific V thought.

Elections were held in 1939. Kurchatov was not elected. But everything was still ahead: titles, awards, and world fame.

And then, in the last pre-war year, work began on the construction of a cyclotron to study the chain reaction. Its construction was carried out under the leadership of I. V. Kurchatov and A. I. Alikhanov. Academician A.P. Alexandrov, later president of the USSR Academy of Sciences, recalled the years when Soviet physicists reached the forefront of Russian science:

"Already V 1940 at a seminar in Phystech, we listened to the report of Ya. B. Zeldovich And YU. B. Khariton, who for the first time done in the world correct assessment of the possibility of organizing a chain reaction In 1939, Soviet work on the world's publications. nuclear fission of uranium. physics accounted for about a third of the — 1940 gg. By For it was clear that it was necessary to develop methods for enriching natural uranium with us an isotope of neutron moderators, physicists already had the opinion that it was possible to regulate the chain reaction by absorbing "delayed neutrons" 235, learn to receive co weak absorption. Soviet

" [8].

It was then in Kurchatov's laboratory that his colleague G. N. Flerov and K. A. Petrzhak from the Radium Institute discovered the spontaneous fission of uranium.

A few days before the start of the Great Patriotic War, a magnet was made for the cyclotron at the Leningrad Electrosila plant. Next to the building of the institute, a new one, similar to a planetarium, has grown. The report on the installation of the cyclotron was published by the Pravda newspaper on June 22, 1941. On this day the war began. I. V. Kurchatov and A. P. Alexandrov, with employees of their

laboratories, worked on the fleets to

demagnetize ships in order to reduce our losses from fascist magnetic mines. Many future members of the nuclear

epics now defended the honor and independence of the Motherland with weapons in their hands.

In the fall of 1942, Kurchatov had to leave his work in the Navy, and with them the leadership of the LPTI armored laboratory. There were good reasons for this. As early as 1940, the Academy of Sciences Commission

for the Study of the Problem of Atomic Energy, chaired by Academician Khlopin, recommended government and scientific institutions to monitor the scientific publications of Western experts on this problem. The head of the scientific and technical intelligence of the NKVD L.P. Kvasnikov handed over the orientation to the residencies in Scandinavia, Germany, England and the USA. Their task was to collect all the information on the development of a "superweapon" - a uranium bomb. V. Zarubin (pseudonym Cooper) was sent to Washington. He had documents addressed to the secretary of the embassy Zubilin. His wife Yelizaveta, a veteran of Soviet intelligence, left with him. On October 12, 1941, when the Germans were advancing on Moscow, Zarubin was received by Stalin. He was ordered to create a large-scale and effective undercover intelligence system not only to clarify events, but also to influence them. However, materials on the

development of atomic weapons that began to arrive at the center from other countries made this area of work a priority for Zarubin, and not only for him. The "Cambridge Five" also worked on this problem: McLean, Philby, Burges, Cairncross and Blunt. As early as September 1941, Moscow knew about the English atomic project Tube Alloys. From April 1942, the State Defense Committee of the USSR began to receive information suggesting that the Nazis were also working on the creation of a new, very powerful - atomic - weapon. By that time, it was already known that similar work was being carried out in the United States, with the same goal, and that it was surrounded by extreme secrecy. In August 1942, Flerov, in a letter addressed to Stalin, expressed concern about the possible conduct of work on the creation of atomic weapons abroad and insisted on the resumption of work on the fission of uranium.

This letter is a very remarkable episode in the development of Soviet work on atomic weapons. It has already been mentioned above that Georgy Flerov and his colleague Konstantin Petrzhak, under the guidance of Kurchatov, conducted an important study with

sensational result in the prewar years. They discovered a new type of radioactivity - the spontaneous fission of uranium nuclei. But the war began - Flerov was drafted into the army. And here he is, a lieutenant technician of an air unit, by the will of military fate in April 1942, ends up in Voronezh. The city university was evacuated to the rear, but the university library was delayed and remained in place. The lieutenant technician goes to the library, looks for foreign journals on physics, carefully reads them in the reading room, which has been frozen over during the winter, and makes sure once again that there are no publications on the atomic nucleus in them. And if so, then these studies in Germany, England, America are now SECRET. Then he sits down and writes a letter:

“Dear Joseph Vissarionovich!

Here is the 10th beginning of the war, months have passed since and all this time I feel like a person trying to break through a stone wall with his head. wrong B? than I'm overestimating the uranium problem

whether "? No, This

wrong. The only thing that makes uranium projects fantastic is that they are too promising if the problem is successfully solved. I have to start talking. Maybe there is always an element of risk, some other... However, let's imagine "worked out". True, the revolution with most I'm wrong - in the scientific work more than and in case of uranium, he will for a minute, what will not be done technology is with uranium - this is given confidence in but by the work of the last pre-war months, a real revolution will take place in military equipment. and all this just because without our participation, the scientific world now, as and earlier, inertia flourishes. It seems to me ... we are making a big mistake ... The biggest stupid things are done with with the best of intentions.

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We all want to do everything possible to destroy the Nazis, we need to flog the fever - to deal only with those issues But Not that fit the definition of pressing

military tasks. So, I consider it necessary to convene meeting the composition of academicians Ioffe, Fersman, Vavilov, Khlopin, Kapitsa, Leipunsky, professors Landau, Alikhaiov, Artsimovich, Frenkel, Kurchatov, Khariton, Zeldovich; doctors Migdal, Gurevich. It is also desirable to call A.

TO.

Petrzhak, I ask for a report 1 h. 30 min. Very desirable, Joseph Vissarionovich, your presence explicit or implicit... »[9]

The letter could not go unnoticed. In addition, it was sent on time: in the same spring of 1942, Stalin also received a letter from S. V. Kaftanov, authorized by the State Defense Committee (GKO) for science, with the same information, but relating purely to Germany. The reason for it was the notebook of a murdered German officer with calculations that clearly related to the creation of nuclear weapons. The delay, apparently, is due to the fact that the provisions and proposals made by Flerov were carefully checked. available

by this time, intelligence in the Kremlin was already showing the importance both allies and adversaries attached to nuclear research. In any case, in the fall of 1942, academicians A.F. Ioffe, V.I. Vernadsky, V.G. Khlopin and P.L. Kapitsa were called to Moscow, to the

GKO, from the evacuation. They had to answer the question of whether work on uranium fission should be resumed immediately. It was not easy, it was not easy to answer such a question at the very height of the war, when the Germans were still strong and for us an obvious turning point for the better had not yet come. Scientists, however, spoke in favor of starting work. In mid-September 1942, after a conversation with Academician A.F. Ioffe, after a conversation with Academician A.F.

Kazan Kurchatov. Kurchatov left for Moscow on September 15, immediately after Ioffe's return from Moscow to Kazan. Apparently, during this visit, Kurchatov met S.V. position of Deputy Chairman of the Council of People's Commissars. In October-November, at the suggestion of the government, Kurchatov prepares a note on the resumption of work in nuclear physics. After its consideration in the GKO, I. V. Kurchatov and other scientists, including Yu. B. Khariton, Ya. B. Zeldovich, I. K. Kikoin and A. I. Alikhanov, G. N. Flerov, together with M G. Pervukhin is instructed to submit a plan of measures to start this work.

On October 28, Igor Vasilievich writes to his wife in Kazan: "There is a lot of work ... I will stay in Moscow for 10 days." November 11: "... I think to stay in Moscow until December 5." He returned to Kazan on December 2, 1942, on the very day when, at 15:25 Chicago time, Enrico Fermi for the first time in the world carried out a chain reaction of uranium fission in a reactor built by him in the United States, thereby opening the way to the creation of an atomic bomb. Remembering that time, Academician A.P. Alexandrov later

wrote:

"In September 1942, having arrived, I found. When V Kazan from Stalingrad, Moscow, Kurchatov" We I don't He physics. There from told me: returned to nuclear will continue to work that the Americans By is information, "How And do the Germans make atomic weapons during the ". — This in war to deploy such a thing?" be shy, make any orders — "And it is said, to Not And immediately take action." Later He moved to different V Moscow. And front him physicists. The turn has And from cities began to call to 10 before me " come And .

When the Soviet troops went on the offensive near Stalingrad, the State Defense Committee took the final decision on

the start of work on the "uranium project". “The leaders of our state,” recalled M. G. Pervukhin, “immediately accepted the proposals of scientists. Literally a few days later we were instructed to start a business. every question. There was even anxiety on the part of Stalin. He attached great importance to the solution of the atomic problem"11. At the end of 1942, at the direction of Stalin, a special meeting of the GKO was held. A.F. Ioffe, N.N. Semenov, V.G. Khlopin, P.L. Kapitsa and young I.V. Kurchatov were invited to the meeting. Academician Ioffe, who spoke at the time, suggested that at least 10 years would be needed to realize such a task.

No, fellow scientists! Stalin said with irritation. “We are not satisfied with this time frame. For our part, we are ready to do everything to make your work go faster... And now we must determine who will lead the nuclear project. I think Comrade Ioffe would have coped with such a task ...

But unexpectedly for everyone, the academician dared to take off his
the candidacy was proposed by I. V. Kurchatov.

Stalin looked searchingly at Ioffe for a long time and suddenly said:

“But I don’t know such an academician!”

“He, Comrade Stalin, is not an academician. He is only
promising professor.

Academician Kapitsa also withdrew his candidacy in favor of Kurchatov, who, of course, was not allowed to recruit nuclear physicists from Rutherford's laboratory.

“Very well, Comrade Ioffe. But first you give him the title of academician...

In February 1943, an order was signed by the USSR Academy of Sciences on the creation of Laboratory No. 2 at the Academy under the leadership of I. V. Kurchatov. At the same time, Igor Vasilievich summoned Yu. Khariton, I. Kikoin, Ya. Zel'dovich and G. Flerov to Moscow .

On April 12, 1943, the atomic scientific center of the Soviet Union, the Institute of Atomic Energy, was established. On September 29, I. V. Kurchatov was elected to the academician. Naturally,

military-strategic importance was attached to work on atomic energy, and the main task was the creation of atomic weapons. Kurchatov with a small group of physicists drew up a plan for solving the problem. In the shortest possible time, it was recognized as the most expedient to create a uranium-graphite reactor for the production of plutonium on it - the material for the charge of an atomic bomb. This turned out to be the most correct way, the merit of domestic scientists, who established the most reliable method for achieving maximum results in the shortest possible time.

If today we could put into a computer the conditions under which work on the Soviet atomic bomb was unfolding, in comparison with the conditions of these works in Los Alamos, and also in

German institutes involved in the "uranium project", the computer would answer: "No, under such conditions these results could not be achieved." But they have achieved it! And when

creating not only atomic, but also missile weapons, and when building an air defense system, and in other areas of military affairs. That "military generation" (the author is also his representative) "could storm the sky", as Karl Marx said about the Parisian Communards - and stormed! Kurchatov and his team started from scratch, without laboratory

buildings, without installations, without equipment. When a roof appeared over the only "red house" towering on the deserted Oktyabrsky field - the former Khodynka - in 1944, the entire Laboratory No. 2 gathered under it. The middle part of the building was occupied by experimental laboratories and Kurchatov's office; employees and he himself settled in the wings; workshops were located in the basement. Dissatisfied with the pace of work, in May 1945, in a note to Stalin, Kurchatov and Pervukhin proposed to speed up research and development projects .

ruktorskie work as the basis for the creation of enterprises of the nuclear industry. And no wonder they were in a hurry. The Americans were just speeding up their "Manhattan Project": 200 thousand researchers and support staff, and the best equipment for that time, and ideal living conditions ...

And when at 5:30 a.m. on July 15-16, 1945, the first test of an atomic bomb was carried out in the United States, the Soviet Union had only one way out: to create a nuclear weapon, and as quickly as possible. Kurchatov replied to the government's request that Soviet atomic weapons would be created in 5 years.

In the autumn of 1945, to direct all special work, a Scientific and Technical Council was created, which included leading physicists, mathematicians, chemists, outstanding engineers and leaders of some industries. B. L. Vannikov, People's Commissar of Ammunition, was appointed chairman of the council, I. V. Kurchatov and M. G. Pervukhin were appointed his deputies. Under the Council of People's Commissars, the government created the First Main Directorate under the leadership of B. L. Vannikov and his deputy A. P. Zavenyagin, and since 1947, also M. G. Pervukhin. Academic, industry and military institutions, design bureaus and construction organizations are involved in the work. Complex scientific and engineering problems are solved in the shortest possible time. Nameless new cities are growing - "atomic cities". They were malnourished, lacked sleep, furniture. Later, the participants in the atomic epic recalled those years as the best

years of their lives - the time of creative, genuine work. Everyone was inspired not only by the personal example in the work of Kurchatov the leader, but also by his extraordinary human qualities, which influenced everyone who was nearby or even just heard his name. His energy was beyond human strength, and the scale of his activities is truly grandiose. Nobody else like

many associates of Kurchatov note that he would not have coped with the task better and faster than he. "The work required manual

a new type of parent. Igor Vasilyevich turned out to be the right person in the right place, "wrote Academician Ya. and at enterprises, to check the progress of work, to talk with performers, to cheer up and "puzzle", that is, to formulate a

task.Meetings with him were looked forward to, pleased, inspired and remembered for a long time.

“Of the many thousands of people who solved the atomic problem, wrote A. P. Alexandrov, polygons — Not was V those years pa factories, V institutions, on of a more popular man, with a slower clumsy gait, respected than a giant with eternally radiant With eyes and "With warm short name Beard "Igor Vasilyevich was exciting [13]. to work with, the objects sipped grief together. I'm interested. B. L. Vannikov, Igor, the any undertakings On inconvenience, He went to the carriage was about to lose heart ... The energy of his settled there V carriage, — remembered Vasilyevich could live in the city, but despite co me in railway carriage. Often in the morning the temperature V is zero. Igor Vasilievich was inexhaustible... He And Not responded on And entertainment, but did not drink alcohol at all" [14].

People go to Kurchatov for a critical assessment, for help and advice. He is full of energy and optimism. He is tireless. The surrounding people are exhausted from the "Kurchatov" pace of work. It is available to everyone. The reaction of his moment. He attracts to the cause, all who are able to work, achieving decisive results at the cost of a reasonable expenditure of energy. He creates an atmosphere of inspiration around him, which triples his strength. And the work was gigantic, and at the same time in a completely unknown area, it often went by trial and error. The Germans, for example, recklessly rejected graphite as a neutron flux moderator, relied on heavy water and lost. Americans, using the experience of

The rest of Europe, who by the will of fate found themselves in the United States during the war years, also experienced enormous difficulties. So this is in a rich country that has not known war at all for a hundred years, and even on its own territory. And a completely different matter for the USSR is Russia, which was just resurrecting from the ashes after a devastating war unprecedented in world history. And it is necessary to solve the problem by all means. As soon as possible. Answer the American challenge. We need funds. Money, a lot of money, electricity in huge quantities and scarce materials. And all this needs to be explained to the bosses, who often do not really understand what all this is for.

The situation changed dramatically after the American

atomic bombings of Hiroshima and Nagasaki. On August
20, 1945, the USSR State Defense Committee decided to form a Special Committee, which was instructed to concentrate all efforts and resources on the creation of atomic weapons. The most time-consuming was the construction of "objects" for the
extraction and processing of uranium, the production of plutonium, the design and serial production of atomic bombs. L.P. Beria, who then headed the NKVD and at the same time held the post of Deputy Chairman of the Council of People's Commissars, was appointed its chairman. The same decree of the State Committee for Defense established the First Main Directorate (PGU) under the Council of People's Commissars for the direct management of the
nuclear project. B. L. Vannikov was appointed head of the PGU, Kurchatov became his deputy for scientific management of the entire atomic program as a whole. The main slogan was: "Pace, pace and again pace!" And if one of the subordinates asked when it was necessary to complete the task, then they usually heard in response: "Yesterday!" The specialists selected for
work moved from overpopulated, half-starved Moscow to the city of Sarov, Gorky Region, which became a closed "atomic city" - Arzamas-16. There is no longer any need for them or their families.

experienced. 39

There was such an episode. Returning from Berlin after the Potsdam Conference, Stalin called Igor Vasilyevich and asked him why he required so little to speed up the work as much as possible. Kurchatov replied: "So much has been destroyed, so many people have died. The country is on a starvation ration, there is not enough of everything." Stalin said irritably: "A child does not cry—the mother does not understand what he needs. Ask for anything you like. There will be no refusal . " And it took a lot. Back in 1943, Kurchatov and Pervukhin reported to the government about the
need to urgently organize geological exploration and mining of uranium in large quantities. It was decided to search for its new deposits in the country. This case was entrusted to the People's Commissariat of Nonferrous Metallurgy. It was estimated that the operation of the first small experimental reactor would require 45 tons of pure uranium and about 500 tons of the purest graphite. There was no such amount of
materials in finished form. It was necessary to establish their production. And not only to obtain the necessary metallic uranium from ore, but also to develop a technology for cleaning it from impurities, controlling the purity of uranium and graphite at a special, unprecedented level.

At the same time, much more uranium was required than was mined in separate, even pre-war, antediluvian mines. And here the fundamental ideas of V. I. Vernadsky on the role of radioactivity in the development of the planetary system, including the Earth, on the geology of uranium, served a great service. This side

V. I. Vernadsky himself, his students, academicians A. P. Vinogradov and V. G. Khlopin, director of the Radium Institute, were engaged in the project. Soon they and A. A. Bochvar received metallurgical uranium from ore. And this technology has also been mastered by production. It was also necessary to have ultra-pure graphite
- a thousand times purer than it was then in the USSR. There were not even methods for measuring this degree of purity. They were developed at the same time. These works were difficult to unfold. The found uranium lay in hard-to-reach mountainous areas - there were practically no entrances and roads. Down the paths from the mountains

strings of donkeys with huge bags over their backs at the ready, and in them mined uranium ore. Whether she was fit for the job, no one knew. Nevertheless, the task of extracting uranium in the required quantities, and then developing the technology for obtaining both pure uranium and ultrapure graphite, was solved in less than a year.

The decisive year for Kurchatov and the laboratory was 1946 - the time of the implementation of a nuclear chain reaction on a uranium-graphite experimental reactor, which began to be built on the territory of the laboratory in the spring. Kurchatov, as the chief experimenter in physical research, headed the construction of the reactor himself. Kurchatov, experimenting, makes far-reaching forecasts, gives assignments for the design of nuclear industry facilities, organizes personnel training, and promotes the construction of new centers and cities. Hundreds of physicists and chemists, metallurgists and metallurgists, geologists and technologists work, regardless of the time and effort, without basic amenities, cut off from home and not even having the right to tell their loved ones exactly where they are and what they are doing. Works are being carried out on a broad front simultaneously in many directions, with a huge risk, when, for example, after an experiment with a microscopic amount of plutonium, a decision is sometimes made and an industrial technology is deployed at a cost of billions. The pace and intensity of all work is at the limit of human capabilities. Kurchatov's associates recall: "It was work without days off, with short breaks set aside for sleep. There were times when, during a discussion, someone fell asleep at the table, then the rest moved to another room to give their comrade a rest ..." As obtaining materials for the first reactor on the territory of Laboratory No. 2 in an army tent, without waiting for the building to be completed, they collected uranium-graphite prisms, on which experiments were carried out, searched for

optimal parameters of the reactor. And in the building already built, five were laid, one after the other,

reactor masonry. These works, and then the launch of the first reactor, Kurchatov, as a leading experimental physicist, led himself, and the rest - theorists, physicists, engineers and workers -

helped him. And one day, during another uranium-graphite laying, one of the workers asked Kurchatov: why should he, the head of a huge state project, take on this menial job? Igor Vasilievich answered this: "All menial work must be done carefully, because the success of the common cause depends on how it is done"16 . And on December 25, 1946 at 18 o'clock Moscow time

time, a nuclear chain reaction in our country became a reality.

This long-awaited event is taking place quietly, without noise, except for the friendly "Hurrah!" in the dungeon. The first reactor in the USSR is operating. On New Year's Eve,

Kurchatov gathers the participants in this great cause in his "hut" - a house built at his request right "at work". Three joyful events at once: the completion of the most important stage of work, the new, 1947 and

housewarming.

He did not yet know, of course, that in 1971, 25 years after the launch of the first F-1 experimental reactor, a memorial plaque would be erected on the building of the "Assembly Workshops" where it was assembled, immortalizing the great achievement of Soviet scientists. Simultaneously with the construction of the first reactor in Moscow,
the design and construction of an industrial reactor was carried out. This is also exhausting work, sleepless nights, extreme nervous tension. The summer of 1948 turned out to be especially difficult, when "everyone worked like hell." Kurchatov slept two hours a day: from two to four. At such a frantic pace was the work of scientists. But not only them. In those years, the first Soviet test site was created for testing "products". Initially, in the summer of 1946, it was planned to make two types of bombs: plutonium and uranium. However, the theoretical calculations carried out later in the KBP and other organizations

You and experiments showed that the uranium bomb had a low efficiency, or rather a low coefficient of "harmful action", and required a larger amount of uranium-238, and this would greatly complicate production. Therefore, it was decided to concentrate efforts on the plutonium bomb.

By the spring of 1949, the bulk of the work had been done - the final development of the design, the release method and the detonation system for the first Russian atomic bomb, RDS-1 *, had begun. Then, tests. The tests were supposed to confirm the correctness of the chosen method for creating atomic weapons. A place was chosen for them - Air Force training ground No. 71 near Kerch, near the village of Bagerovo. In accordance with the test program, the carrier aircraft was supposed to drop five samples of bombs not with a nuclear, but with a conventional charge, but with a system of identical fuses. Thus, all systems were checked, there was only one thing missing: a nuclear explosion. Flight tests of bomb simulators were successfully completed.

However, due to the low rate of accumulation of plutonium by the summer of 1949, only one charge was made. Therefore, from the "aircraft

option "had to be abandoned. For the explosion of RDS-1, the site number 2 was chosen.

3. Training ground No. 2

It was then that the village of Moldary went down in history. There, on the "wild bank of the Irtysh", at the junction of three regions - Karaganda, Pavlodar and Semipalatinsk, in the territory of East Kazakhstan, a nuclear test site was created. But why exactly there? There, the desert area was almost uninhabited for tens of kilometers. In addition, this plain - the bottom of the ancient dried-up sea - was surrounded within a radius of 10 kilometers by quite high

* This abbreviation had the following meaning: "Russia Makes Itself".

our hills. And, finally, and most importantly, this place of East Kazakhstan lies in the center of the Soviet Union, removed from the borders, from prying eyes, which ideally ensured the secrecy of the deployed enterprise.

In the autumn of 1947, barge caravans began to moor to the banks of the Irtysh in Moldary. Military builders arrived on them, construction and other materials necessary for the construction of an object called "Training Ground No. 2" were delivered. Severely met East Kazakhstan newcomers. Cold autumn nights

for the soldiers, who arrived in summer uniforms, proved to be a difficult test. There is bare sandy steppe all around, there is nowhere to even get straw for mattresses. Fires were made on the fuel brought with them. Sandstorms carried clouds of dust - eyes, ears, nose, mouth clogged with sand. And when the fierce Kazakh winter came, it seemed that the whole body was freezing through. Birds froze on the fly. Mechanisms and cars refused to work. And people lived and worked up to a seventh sweat: they built object No. 905, the significance of which the majority had no idea. A strange settlement arose along the shore, a town consisting of dugouts. The builders lived there. In the dugouts there were barracks for soldiers, dormitories for officers, a headquarters, a medical unit, a bathhouse, workshops, storage facilities were equipped - in general, a primary infrastructure was created, without which it would be impossible to ensure the deployment of grandiose construction. And it was carried out on a wide front by the forces of the created separate construction department, which united several construction battalions. A special department was created in the General Staff to supervise the construction of the test site. It was headed by Major General of Engineering and Technical Service V. A. Bolyatko. Specialists of the Ministry of Defense assisted research institutes in studying all the damaging factors of an atomic explosion, and also dealt with purely military tasks: the effect of an explosion on

terrain, buildings, equipment, etc. They were responsible

and for the operation of the landfill.

But in order to carry out all this work, personnel, specialists of various military professions, were required, and they had to be trained, prepared for the performance of new duties, largely unknown to them.

Initially, all personnel selected for work at the nuclear test site were assembled in Zvenigorod, near Moscow, in the building of the Savvino-Storozhevsky monastery, which then housed a military sanatorium. It was temporarily closed, and it became both a training center, a creative laboratory, and a hostel for officers who had come here from different places of service and mastered their new specialties. It was necessary to study dozens of instructions, manuals, graphs, drawings, to master the basics of nuclear

physics. And all this was "top secret", and so "perfect" that the majority of those involved in the new work - and there were about a hundred people - knew only that they had to carry out an "important government task." The authorities answered all clarifying questions evasively, insisting that, first of all, it was necessary to acquire the necessary skills, to master new specialties. In other words, study, study and study. Who, where, for what purpose - all this was shrouded in the mystery of the unknown. But, judging by the voluminous, detailed questionnaires that the contingent gathered in Zvenigorod had to fill out, the matter was extremely serious.

In the spring and summer of 1948, most of the personnel of Polygon No. 2 dispersed to various research institutions, depending on the specialty that everyone had to finally master in order to solve the upcoming common task. Meanwhile, for those who were directly involved in the construction of the landfill, the picture

gradually cleared up. The polygon turned out to be a very extensive and complex object. It stretched for tens of kilometers and consisted of three zones, separated from each other by a significant distance.

distances. All this in the drawings looked like a giant triangle with a base of 70 kilometers and legs of 160 kilometers. The population from this area was relocated to other areas. On the banks of the Irtysh, where the village of Moldary used to be, 160 kilometers from Semipalatinsk, the so-called residential zone is located. It had a residential town (site "M"), buildings of the laboratory group (sites "O" and "D"), barracks, warehouses and bases. Another zone - the experimental field, where the atomic bomb test was to be carried out (site "P"), for security reasons, was removed from Semipalatinsk by 180 kilometers and 70 kilometers from the residential area. Near the experimental field, it was planned to equip auxiliary sites "Sh" and "H". The base airfield and transshipment base were in Semipalatinsk. It also clarified the tasks that people had to solve,

selected for work at the landfill. At the beginning of 1948, the commander of unit No. 52605, Lieutenant General P. M. Rozhanovich, who arrived in Zvenigorod, announced that the personnel assembled here were entrusted with participating in the testing of new models of military equipment. They will be produced at a special site far from Moscow, but the site is still under construction. Meanwhile, he briefed the management team with the plan of the test site, which was mentioned above. In the spring of the same year, it became known about the main appointments to responsible positions. In particular, Colonel B.M. D. M. Karbysheva. Only then did he learn the true name of the weapon, which was to be tested by the "team" of the experimental field under his leadership. It was necessary to quickly prepare both the personnel and the field itself for testing. On April 18, 1948, a Li-2 aircraft landed at the Semipalatinsk airfield. He brought here the command of Polygon No. 2 - the head of the polygon gene 46

ral P. M. Rozhanovich, his deputy - the head of logistics, Colonel P. F. Ladygin and other responsible leaders of the military project. On a dirt road, broken by tractors and tractors, on an army jeep, the authorities moved to the object entrusted to them. Around - a gray deserted steppe, damp, cold, in the lowlands there are still snow islands. From the winter months, high poles with

bunches of reeds at the top - landmarks for drivers in winter blizzards and at night. The road was full of cars carrying building materials. We arrived at site "M" - the place of

the future residential town. Near the shore is the only semi-submerged shield house - the headquarters of the head of construction. For several hectares around - dugouts for soldiers, officers, change houses, supply rooms, etc. Behind them - parking lots, warehouses, stacks of logs and metal structures. All this is open to rains, snowstorms, steppe snowstorms.

In the winter of 1947/48, 9 thousand military builders built dugout towns here, laid and maintained in
unpaved roads between Semipalatinsk and the areas of Training Ground No. 2, conducted exploration of local sources of building materials - stone, sand, clay - and
began their extraction. By the spring of 1948, the construction of temporary auxiliary enterprises was completed: reinforcement, formwork, woodworking shops in Semipalatinsk, as well as storage facilities. Temporary berths were equipped on the banks of the Irtysh for the period of navigation, power stations and pumping stations were placed. With the onset of warm weather, since April, the construction of the main structures began
simultaneously at all sites. Of particular difficulty was the construction of instrumentation facilities on the experimental field. Digging huge

pits, moving large masses of soil and many other large-scale work with low-performance time-serving mechanisms and carried out machines. Diversity of structures, abundance of

fine metal structures and holes in them, reinforcement was forced to make them monolithic. The result is an abundance of manual labor. Brick houses for experimental laboratories were also built by hand. There was a tent city for housing.

In August, an integrated team of designers from the State Specialized Design Institute No. 2 (GSPI-2) appeared at the test site, the leadership of which, shortly after its arrival, was headed by P. V. Vasiliev. The builders began to receive drawings, where the materials and equipment available on site were already taken into account, issues on

estimates.

In September, early frosts, surprising for these places, began at night. The grass in the mornings was covered with hoarfrost and an ice film. Despite this, the personnel of the training ground were still housed in summer tents and, of course, were cold at night. The extra 2-3 blankets given out helped little. By November, builders had completed the first two cinder block and two

wooden dormitories. But they weren't enough for everyone. People spent the winter in boiler rooms, in the pump house, in dugouts—everywhere where they could somehow warm themselves at night.

Frosts closed the river early. Navigation on the Irtysh ceased. Namely, the waterway mainly ensured the delivery of large structures, long materials, bricks from Semipalatinsk - fast, with minimal fuel consumption. When navigation stopped,

all delivery already carried out by road.
The operation of roads and cars has also become more difficult. The harsh winter of East Kazakhstan dictated its conditions. In order to somehow speed up the construction of residential and industrial premises, specialists were involved in their acceptance, and these premises were to be put into operation. This improved the quality of work, reduced the number of imperfections.

But the main object, in the name of which all this gigantic construction unfolded in the wild steppe, was the zone

called an experimental field, that part of the territory on which tests of a secret military product were to take place. Preparing for these tests, it was necessary first of all to equip the military unit with the necessary personnel. And the preparation of the field itself for testing had to be carried out by specially trained people, high-class professionals, specialists in various fields of military affairs. Therefore, it was urgently required to staff the team of the experimental field with intelligent, knowledgeable people.

After a thorough study of the tasks and responsibilities that were assigned to the employees of this unit,

functional principle. By the end of 1948, the staff of the experimental field included three sectors: physical measurements, biological and weapons, and each of them consisted of laboratories (in various documents they were called either departments or departments). The sectors and laboratories were staffed by well-trained specialists and headed by eminent specialists in their respective fields. This is how the work on staffing the field with qualified personnel was built. Some heads of laboratories had scientific degrees. However, the case was so new that everyone needed to improve their knowledge.

Therefore, the second most important task of preparing for the upcoming tests of the atomic bomb was to equip the personnel of all units with knowledge about the equipment involved in the tests and methods for measuring new parameters corresponding to the bomb. The Institute of Chemical Physics (ICP) of the USSR Academy of Sciences, headed by Academician N. N. Semenov, became the main base for training the personnel of the sector of physical measurements. The scientific director of the training of officers of the most experienced field was the deputy director of this institute, M. A. Sadovsky. Training of personnel was carried out by specialists from the Institute of Chemical Physics O. I. Leipunsky, I. L. Zelmanov, 49

G. L. Shnirman, P. A. Yampolsky, V. B. Miller and some others. The same specialists became scientific supervisors of the corresponding laboratories of the sector. Specialists from the State Optical Institute, headed by Professor M. A. Elyashevich, were also involved in the training of officers. The main training center for biological

sector became the Main Military Hospital. Burdenko.

Employees of the arms sector were preparing for tests independently, directly on the landfill. The training of

specialists in the sector of physical measurements was facilitated by the fact that by that time a nuclear reactor was already operating in Moscow in the laboratory of measuring instruments of the USSR Academy of Sciences (the future IV Kurchatov Institute of Atomic Energy). This reactor produced gamma sources of artificial radioactivity, cobalt and cesium. These sources were brought to the Institute of Chemical Physics. Radioactive sources were placed in lead containers. They were transferred from storage to laboratories, removed from containers and installed in the required place. And so several times a day. The employees had few rooms, sometimes they had to work in the same room where the calibration of instruments took place. Naturally, with such "safety precautions" it was impossible to avoid radiation. And although the radioactive sources were rather weak, a dose of 0.05 to 0.1 roentgen was accumulated per day. Meanwhile, the laboratory staff not only were not afraid of exposure, but even

flaunted it.

“Once someone I. Khovanovich, the sealing of an ampoule of one radioactive source was broken. We decided to clean up This operation was assigned to me by a laboratory employee. The most primitive means of protection were used: someone's old trousers, a bathrobe, in the absence of rubber gloves, wash its surface did we receive, one of the employees who worked at the laboratory at that time, discovered

recalled

from

And

behind

am condoms. Not I remember

50

But white blood cell count dropped out of the 6000 3500. The blood doctor institute's radioactive safety service demanded that we regularly donate blood usually hide somewhere "examination, for tests and went to her on but we, seeing her,

With

before

eleven

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But be that as it may, by the beginning of 1949, the training of the field staff was basically completed and all the specialists, as well as the necessary equipment for work, were concentrated at the training ground.

As before, housing remained the most acute problem with the onset of cold weather. If the builders by the autumn of 1948 had already prepared at least some housing for themselves (mostly dugouts), then the arriving employees of the experimental field found themselves in a difficult position. The fact is that the main construction work in 1947-1948 was carried out at the nearest railway station Zhana-Semey, where a modern airfield was built, and on the experimental field itself. At the same time, on the banks of the Irtysh, in the headquarters town, which received the name "Bereg", by October 1948, only two residential buildings, two two-story laboratory buildings, a unit headquarters building, a vivarium for experimental animals and a pathoanatomical laboratory building were built. Therefore, the specialists who arrived lived in tents - even the dugouts of the builders were a dream for them. Only after the report of B. M. Malyutov at the General Staff and a heated discussion there with the Marshal of Engineering Troops M. P. Vorobyov, who was in charge of the construction of Training Ground No. 2, did the personnel of the experimental field manage to win over the laboratory buildings for wintering, which, of course, had very little in common with living quarters. During the preparation and conduct of the first atomic explosion, an emergency, strict regime for maintaining the secrecy of work was established at the test site. All official records were kept in registered notebooks, which were kept in suitcases, sealed with a personal seal and at the end of the working day deposited with the secret department. Major General V. A. Bolyatko every time

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visiting the laboratory, he himself examined the drawers of the desks, checking whether any papers with notes were left in them. There was not a single case of deliberate violation of secrecy or any hostile actions.

It can be said with full right that a huge team of employees of the landfill, realizing all their responsibility for

successful solution of a task of national importance, worked for the sake of its implementation, sparing no effort and health. There were shortcomings in the work, but they stemmed mainly from the novelty of the case. That was the generation of people. V. V. Alekseev, who then headed the

department of penetrating radiation, recalled that with such a tough regime, one day, shortly before the bomb test, he had to endure a very tense situation:

"It was V glass V laboratory cupboards were kept in their box, They should have been applicable to determine the dose wrapped in cotton wool. vacuum dosimeters, each V of gamma radiation in an explosion. They began to extract it for testing before installation, it turned out that almost all dosimeters had broken glass cylinders. them Consequently, the devices are out of order. Scandal! of on experimental field. and Immediately reported to management. A commission set up using a polarimeter found C conducted an investigation. glass formed during any sabotage fell off "

internal overvoltage soldering. V
suspicions O 18.
In general, during the preparation of the first atomic explosion, there were many problems with the dosimetric equipment necessary to ensure radiation safety during the test. I had to start from scratch. There was simply no dosimetric equipment for working in the field. In a short time it was necessary to create such equipment for conducting radiation reconnaissance on the ground, in the area of the explosion, for aviation reconnaissance and dosimetric control of the exposure of test participants upon their return from contaminated areas. All this work was deployed on the basis

Institute of Biophysics of the Academy of Medical Sciences of the USSR under the leadership of the Deputy Director of the Institute B. M. Isaev. It was unthinkable to create new equipment in the short time frame for preparing the test site for testing. There was only one thing left: to adapt the existing laboratory samples and models for work in the field. For radiation reconnaissance of the explosion area, two tanks were equipped with

gun turrets removed. The bottom and sides of the tanks were upholstered with lead sheets, and in front of them, measuring sensors were placed on a rod. Similarly, several cars were retrofitted. For aerial reconnaissance, dosimeters and radiometers were placed on a conventional transport aircraft. And the verification of the radiation dose received by the test participants was carried out using individual photo cassettes.

The flavor of that time is conveyed by the memories of Sergei Lvovich Davydov, at that time a major engineer who, by the will of fate, became the first person in our country to press the start button for detonating an atomic charge at the first test of an atomic bomb. The software machine (AP, as it was called at the training ground) had to have absolute reliability, so

how, at his command, all measuring instruments were included in the work. The responsibility of the one who carried out the launch increased many times over also because the only atomic charge in the country was blown up, there was no second such one yet - it was impossible to repeat everything.

Major engineer S. L. Davydov, who was appointed in May 1948 as a senior researcher in the laboratory of automation of the training ground, in the spring of 1949, with a group of colleagues on a new job, left for Semipalatinsk. Here is how he recalls his arrival at the training ground:

“We should have arrived at the Zhana-Semey station, on the banks of the Irtysh, a suburb on left of Semipalatinsk, here tickets, for the sake of secrecy of our trip, were purchased by Charskaya (the next A before stations behind Semipalatinsk junction station).

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Before Novosibirsk were driving With comfort And received from travel pleasure. The carriages are comfortable, spacious and clean.

And almost brand new — just appeared all-metal. We passed by ancient Russian cities: Vologda, Yaroslavl, Kirov, Penza, Sverdlovsk. With pleasure we went out to the forecourts of these cities, which in those years still retained their original appearance.

In Novosibirsk, they made a transplant. The joyful mood turned into a sad one. Old-style cars, cramped, stuffy, dusty, poorly lit. Conductors, no matter how hard they try, everywhere penetrating transplantation of a female conductor

Not can achieve cleanliness, get rid of. When she carefully looked from steppe sand dust. through

our tickets, she looked and said that if we were going to get out of Charskoy, Semey, the on us And exit should be prepared even in Semipalatinsk: the train costs one minute. From the secret Not on and in Jean of our thanked trip That nothing To V

Not left. We behind a warning, it was useful, since the employees of Mamaev Denisov had a lot of packages. They acted as the conductor advised: And when crossing the Irtysh, they were already in the vestibule. In Zhana-Semey we V

Not delayed. met Malyutov commandant, And To cars were given to the train. The dugouts that were located in the commandant's V truck body, station And we were taken V dugout, the representative of Moscow, To entry All With climbed a special right of station tracks. security services checked the permits issued to us V coupons — on on polygon — And identity cards. We were seated again by documents turned out to be a further V okay. Malyutov of the GAZ-67 model, V professors went to And the passenger car V way. the truck sent by the which was With of the military on called the "goat" here. The dirt road ran along the left bank of the Irtysh, repeating the winding outlines of the river. To the left stretched straight as a string, a pole telephone and By Not telegraph line. It was only April, meters were already trailing dust tails. If not from roads

21 A behind cars on a hundred side-

howling wind blowing a cloud of dust would be like a "goat". V side, truck Not smog
Warned by comrades, we still got dust glasses to go beyond Moscow. on both sides of the road stretched a
monotonous
V
By
sand steppe. Around the sand. Only when you approach the shore, the eye is delighted with the greenery To
that abundantly covers the floodplain of the river and groves. On the left, the contours of the mountains were
bare. In some behind the river on the right could be seen Not very thick pine haze
places there were last year's plots cultivated for up to the horizon itself, where V
abandoned millet, adobe camps destroyed by the owners, and burial grounds came across. Those who were
polygon explained that they evicted us to the vicinity of the polygon. And traveling to the
"
Indeed, we did not meet a single
Kazakh on our way. So we arrived at the from
Nagan (Shagan) River, a tributary of the Irtysh. road on
V winter time.

repair department. After a short warm-up, we moved on. Ta same
bleak picture. They began to get tired of the monotony when three frail, lonely pine
appeared on the left. Chekhov's phrase comes to mind: "Who are they here for?" ("Steppe"). "Old-timers" trees
recommend saying goodbye to the last representatives of the flora. Further trees It becomes sad to see off the
their put and
trees gradually disappearing from sight. Finally, there is a fence of three rows of barbed with them like
wire ahead. We hear the word "Limonia" pronounced bitterly. The truck stops in front of the Not will. and
barrier. Next to the guardhouse: from such a warning we look
a checkpoint (checkpoint). A representative of the regime service is checking the young soldiers one
by one, passing the barbed wire. from
With ".
—

And
our documents, verify co list and
us behind And
truck with V body and go.

Behind the wire, the picture changed dramatically. The first thing that rushed a lot of randomly traveled
highways. Some fanned out at the checkpoint, others went across, crossing one another. Everywhere scurrying
V eyes —
there That here trucks, dump trucks. here you can see swarming earthmoving machines. The earth is pitted from
with pits, in many places there are mountains of excavated sand. To the right along the trenches, the banks, And
far as the eye can see, stretched out a continuous row as there, That
in
dugouts — town of military builders. Tacking amidst this
chaos, a truck through several chains of quite rare ones yet
kilometers approached lined with two-story To
houses. Many of the shore were built. The first one that caught my eye was a planted
Disproportionately tall, gabled roof, on wooden on mansion.
With
He looked like a birdhouse. Such

Three "birdhouses" were to be built to receive high-ranking officials. at the training ground
Not far from the "birdhouse", a small eight- But limited to one. bank of the
apartment two-story brick house "box" Same on river, seen
lived the command of the training ground.
With almost flat roof And balconies. The house rolled
And "goat

Malyutov. After driving a hundred meters ahead, the truck stopped u
the unfinished building of the future garrison canteen of the road was not further
the center was. Ditches, trenches, sand heaps, logs, pipes All
Right on the site, laying "M" blocked the passage. residential town. as then
from U.S,
on V beams of the afternoon sun, a newly rebuilt
large two-story building stretched out on it was the headquarters of the training ground.
dining IN In front of headquarters, corps. a little to the side, almost opposite the
room, there was an already completed two-story hotel for the leadership of the nuclear
industry. Opposite the hotel, on the other side of the headquarters, there are two
wooden houses. Temporary houses-dormitories» With
I
19
housed in one of .
With the beginning of 1949, the pace of work at the test site increased every day.
Intensive work
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was carried out in all directions, but the main object was, of course, the experimental field. They worked a lot: they laid cables from the ionization chambers to the instrumentation structures, installed various devices on the surface of the earth to protect the instruments from the damaging effects of the shock wave. After a tiring day, they spent the night right there, on the experimental field, in the built huge building of the industrial workshop,

temporarily converted into a hostel. There were no partitions inside the building; slept without choosing a place where they had to.

The experimental field was a flat boundless area of about 400 square kilometers. In the center of it was built a metal tower 30 meters high, on which the "product"20 was installed. The entire field was surrounded by a wire fence with a radius of 10 kilometers, constantly guarded around the perimeter. It was divided into sectors, which housed military equipment, weapons and various engineering structures. Along the northeastern and southeastern radii, instrumental structures ("towers") were built, in which measuring instruments and automatic high-speed optical equipment were installed. Some of the sensors and indicators were installed openly, and some were installed in military equipment and weapons.

Along the northeastern radius, the main group of animals was openly placed on the ground - horses, sheep, piglets, dogs, guinea pigs, and white mice. A large group of animals was in military equipment and engineering structures: in tanks, trenches, artillery positions, pillboxes, as well as in two three-story houses and an industrial workshop built at a distance of 800, 1200 and 1500 meters north

east radius. In the sectors
reserved for one or another type of equipment, at a distance of 250 meters to 3 kilometers, aircraft of various types were installed, as well as balloons with garlands of measuring instruments lifted into the air on cables, T-34 tanks, artillery pieces, including anti-aircraft guns, and mortars, superstructures of warships,

samples of chemical weapons, models of equipment, communications, many types of food and clothing supplies, trenches, dugouts, trenches, etc., etc.

In the center of the field, directly under the tower, on the horizons of 10, 20 and 30 meters underground, underground galleries about 30-40 meters long were laid.

All this, when testing the first "product", not only made it possible to determine the power of an atomic explosion, its main
physical parameters, but also to check the resistance to explosions of the main types of weapons and military equipment, as well as the protective properties of various structures and tanks when exposed to damaging explosion factors on personnel located in these objects. In preparation for an atomic explosion, much attention was paid to the programmable automatic

device (AP), a device for remotely switching on all the measuring equipment of the experimental field and synchronously switching on the detonation of atomic charges. A lot depended on the reliability of the AP: if the machine does not work, this means the failure of the entire experiment, for which so tensely, stubbornly prepared. Therefore, when the State Commission headed by M. G. Pervukhin arrived before testing the bomb, its members very meticulously checked the reliability and readiness of the program machine.

Moreover, personal responsibility for its operation was assigned to the operator, who was supposed to press the start button, S. L. Davydov. For him, this decision, apparently, was not the most joyful. In addition, a member of the Politburo of the Central Committee of the All-Union Communist Party of Bolsheviks, Minister of the Interior L.P. Beria, arrived at the training ground. He got acquainted with the training ground and visited the command post. Beria obviously liked the AP, and he said that during the explosion he would be in the control room. His decision further increased the nervousness of the launch team, primarily, of course, Davydov. And without the presence of Beria, the situation in the control room promised to be tense. But how to force the minister to change his mind? Was

it was decided to write a special instruction, according to which there should not be anyone in the control room during the experiment who is not directly involved in work, and that the control room should be locked from the inside with a key. The instruction that Kurchatov approved worked flawlessly: Beria did not even try to get into the control room. But if everything worked out well with Beria in this case, this did

not mean that the leadership

polygon relations with the "organs" have always developed smoothly. The head of the experimental field B. M. Malyutov subsequently wrote:

"During the preparation of the experimental field for the first atomic explosion, I had a very close encounter with the actions of the "organs" guarded by Lieutenant General L.F. Meshik. sending officers The obstacles placed by the "authorities" at the Jean-Semey supply base and in coordinating measurement programs made about the actions of his subordinates. skirmish protest me sharply declare to Meshik landfill on

At one "you," told him: "apparently,

According to Meshik, as I remember, they were placed here in order to prevent the leakage of classified information and the task was assigned to reflect the results of tests of classified information apparently just for that. as fully as possible. If you trust us, put our replacement in people who enjoy your fix the same time to question in the environment created by prevent leakage Trustees A. So, you can't be productive. by you "bodies", The apogee of our skirmishes is literally an explosion Commission to release the seven heads of laboratories. This angered me that the chairman of the State that checked M.G.

"organs" was claim their duties week before claim so decided to apply directly

the readiness of the landfill for testing, to the minister Pervukhin, figured ask him to intervene in this matter. of his honor, he apparently gave a serious scolding to it out the senior representative of the "authorities" in this case at the landfill" [21].

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In any case, all the "suspected" heads of laboratories remained in place. But several dozen employees of the test site were nevertheless sent at the request of Meshik on the eve of atomic tests. On the eve of the first test of the Soviet atomic bomb, the top leadership decided to hold a dress rehearsal. She was scheduled for August 27th. All services and divisions had to work in the same

way as on the day of the explosion. On August 27, the preparation of instrumentation facilities began. Rechargeable batteries were recharged, devices installed in the buildings were adjusted. After lunch, specially formed commissions began the final inspection and sealing of the structures. This procedure lasted all day and ended late at night.

In addition, it was necessary to attract a lot of people and vehicles to transport and place on the field a huge amount of weapons, property, animals. It was necessary to deploy a radiation safety service, as well as a commandant's service for recording those entering and leaving the experimental field: after all, not a single person should have been left on the field. A limited circle of people remained at the command post. Under security conditions, it was allowed to observe the flash of an atomic explosion through darkened glasses from the command post, and then immediately, in no more than 30 seconds,

have time to take cover inside the structure and not leave it until the shock wave passes. The persons responsible for the timely closing of the doors were trained to do this operation with the utmost speed. The rest of the test participants were concentrated in a waiting area outside

experimental field.

The road from the experimental field to the town on the banks of the Irtysh was blocked for vehicles, and all those leaving the experimental field were required to go through the dosimetric control point. Contamination of clothing, appliances, polluted motor vehicles were checked. went to the washing area, clothes and appliances dez

activated, and people passed through the showers of the sanitary checkpoint. The dress rehearsal was successful, it was decided

to schedule tests for the morning of August 29th. The day before, all the necessary equipment and apparatus for various purposes was placed at the training ground. On the same day, experimental animals were delivered to the designated places on trucks: sheep, rams, dogs, cages with small animals. Cars moved in columns and one by one. The animals were accompanied by soldiers and officers dressed in radiation-protective overalls. A high metal tower rose in the center of the experimental field. Its top was sheathed with wooden shields, windows were left in the shields for

observation of the initial phase of the explosion. A road led from the command post to the tower. A truck with a silencer equipped with a special protective mesh was supposed to drive an atomic charge along it. By the end of the day on August 28, everything was ready.

And then came the decisive day of testing the first atomic bomb in the Soviet Union. All participants were tense to the limit: they understood that such an outstanding event would happen today, which would go down in history forever. Management was also worried. Already at dawn, it became known that due to the likely deterioration of the weather and a possible thunderstorm, the start time of the experiment - the explosion - was postponed one hour earlier (before that, it was planned to detonate the charge at 8.00, that is, at 5.00 Moscow time). Half an hour before the explosion, S. L. Davydov pressed the start button: the mechanism for preparing for the explosion came into action. A minute before the charge was detonated, the main button was pressed at the command of I.V. Kurchatov.

Here is how Davydov describes these anxious moments, more precisely

seconds:

“From the loudspeakers came: “There are five, four, three, two, one, zero!” I barely had time to report the passage of commands. Denisov's words turned pale. And Chugunova (the O extradition And representative suddenly For reports, the leadership of A. Not answered.

(colleague S. L. Davydova. - ABOUT.), I scary

commissions By AP) A on remote control flashed an electric arc. Chugunov turned off the second of thought, And batteries. Arc

went out. There's a pause... silent. With anxiety? continues to work out All AP are
him hope look at each 40 seconds ... Happened put whether And
other But at the other. outside the door the noise of people running in, the fuss of the
locked door, joyful voices, shouts of "Hurrah!" But the roof of the casemate, as if
released to the shoulder. The pain grows
At will the giant genie gave a friendly pat to the strong.
By no but no, Percussion in the ears,
the wave has passed. Almost silently congratulated each other " 22.

As eyewitnesses of the explosion recall, a wall of dust several kilometers high and just as long stood above the experimental field. Nothing could be seen, except for a few nearby structures. What he saw struck not with beauty, but with the enormous scale of the phenomenon. When the shock wave passed, it was time to check the results of the experiment. The first to leave on

the field was the Deputy Minister of Health of the USSR A. I. Burnazyan on a tank specially equipped with lead protection. He had a scheme of structures located along the northeastern radius of the field. Passing by the structures, Burnazyan had to fire a green or red rocket, depending on the absence or presence of radioactivity. However, the tank passed the lines of 10,000, 5,000, 3,000 meters, and only green rockets took off. Finally, a red rocket is fired at 1800 meters, indicating that radioactivity has appeared. This also meant that it was allowed to leave the field. Following Burnazyan, two more tanks, sheathed with lead shields, drove onto the field. They were led by Major General A. M. Sych and Colonel S. V. Forsten. Tanks crossed the epicenter of the explosion and measured the radioactivity on the field. Immediately, a group of intelligence officers of the security service fenced off the borders of the danger zone with flags. Then, groups of
specialists examined the results of the impact of the explosion on equipment, weapons, engineering structures, buildings, and the stomach.

nyh. After that, the leaders of the atomic project, I. V. Kurchatov, A. P. Zavenyagin, and their employees drove across the field.

During the control of the consequences of the explosion, tragicomic cases also occurred. So, for example, during the evacuation of animals from the experimental field, one of the soldiers, seeing a bar of chocolate, slowly ate it. However, at the decontamination point, it was noticed that the soldier was more radioactive than normal. They took off all his clothes - the same thing. Where is the radiation source? When they brought the radiometer to the stomach, the source was revealed. The soldier was sent to the hospital, where he underwent multiple gastric lavages for several days. A few days later he was discharged from the hospital: nothing happened. But there are also late consequences.

An hour and a half after the explosion, when the dust on the field cleared, it became clear that neither the tower in the center of the field, nor the residential buildings in which the personnel had lived for several months, nor the industrial workshop was gone. Only pillars of black rose

smoke from burning oil depots. Burning mangled planes, a railway bridge thrown from its supports, and destroyed buildings were visible. The sand within a radius of several hundred meters turned out to be strongly melted. Mutilated tanks, guns, and other military equipment were lying around. Some vehicles were thrown tens of meters away from the place where they were placed. The results of the atomic explosion, its impact on military equipment, engineering fortifications, the various nature of the structure, the animals that were on the territory of the
test site, the levels of penetrating radiation - all testified to success. The experiment showed (although not in all respects) that an atomic explosion corresponds to theoretical concepts, which means that it opens the way to the creation of more powerful types of atomic weapons. The Soviet Union became a nuclear power.

4. Science or intelligence?

On September 3, 1949, an American B-29 bomber, which made another reconnaissance flight in the northern part of the Pacific Ocean near the borders of the USSR, while taking air samples (this task was set for all aircraft that made reconnaissance flights in areas bordering the USSR) discovered increased radioactivity. Checking the sample taken led American experts to the conclusion that an atomic bomb had been tested in the USSR. The news of this caused a real shock in Washington. The analysis of radioactive samples by the Americans showed that weapons were tested on a plutonium basis and modern design. (i.e. not atomic

“The probability that this is something else A. O.),
explosion. — atomic — later wrote the chairman of the commission on
energy Lilienthal to the Soviet atomic O his first reaction on
news O bomb, is categorically Robert Oppenheimer quite definite ... in the
swept aside — stomach: this is it,
The what we were afraid of From January
feeling of With since the first meeting of our advisory
1946, the groups ... "
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President H. Truman and Secretary of Defense L. Johnson, predictions of government
shocked failure services, could And calculations
hardly believe the facts. Still would! After all, the Joint Chiefs of Staff assured the President in 1946 that "any great power that starts from scratch and has the information that is now available will be able to achieve this goal within 5-7 years if it receives assistance in specialized equipment and machine tools from nations most capable of producing atomic charges, and in a period of 15 to 20 years without such outside help. And now, instead of 20 years, after supply And use
some 3 years, atomic weapons appeared in the Soviet Union. Despite the fact that the President received information about

atomic tests in the USSR on September 12, he did not dare to immediately announce it. Only on September 23 did G. Truman report to the Cabinet and

throughout the country about the event. According to D. Lilienthal, the Soviet test "radically changed the situation."

But Washington did not want to believe it. Even when Truman was given irrefutable data on September 19, 1949 about the appearance of an atomic bomb in the USSR, he was skeptical about this. He asked each of the members of the special commission on atomic energy to give their personal confirmation that the Russians "really could do it." He did his best to avoid making an official statement about the atomic bomb tests in the USSR, although there were already signs that this news, in addition to the White House, would be leaked to the press. He is known to have asked Lilienthal if he was sure "the Russians really have the bomb?" Lilienthal confirmed this fact. Truman's advisers insisted that the president publicly acknowledge the presence of atomic weapons in the USSR. And only on September 23, almost a month after the atomic explosion at the Semipalatinsk test site, he told the world: "We have evidence that a few weeks ago an atomic explosion was carried out in the USSR." It was a heavy blow to the American establishment.

In the USSR, on September 25, an official message was published:

"On September 23, US President Truman announced that, to the US government, according to an atomic explosion had taken place in the last few weeks. At the same time, a similar statement was made by the British and Canadian governments.

Following the English and publication of these statements American, printing of Canadian seal, other countries Numerous statements have appeared that sow alarm in wide public circles.

With this, TASS is authorized to declare the following:

In the Soviet Union, as is known, construction work is being carried out on a large scale - the construction of hydroelectric stations, mines, canals, roads, which necessitates large-scale blasting.

applying the latest technical means. Since these blasting operations in different areas took place quite often in countries outside the Soviet Union. that it could attract to itself attention is possible

As for the production of atomic energy, TASS considers it necessary to remind November 1947 that back in the year, the Minister of Foreign Affairs of the USSR made a statement regarding the bomb, saying that "this secret has long been." meant that the Soviet Union had already discovered the secret of atomic control of this weapon. Scientific weapons, the circles of the United States of America accepted this statement by V. This statement and he has in

M. Molotov with behind bluff, believing that the Russians will be able to take atomic weapons, not how possession before 1952. However, they were wrong the Soviet Union mastered the secret of atomic weapons yet V

1947. As for the anxiety spread By about this by some foreign circles, there are no grounds for alarm. It should be said that the Soviet government, despite the fact that it has atomic weapons, stands and intends to stick to its old position of unconditional future prohibition of the use of atomic weapons.

Regarding the control of atomic weapons, it must be said that control will be necessary in order to verify the implementation of the decision to ban the production of atomic weapons. 24 .

It must be said that the leadership of the USSR was alarmed by Truman's statement of 23 September. How do Americans know about our atomic explosion? So, there were their agents at the training ground? Only convincing explanations from scientists convinced the Kremlin that the fact of an atomic explosion could be determined by taking air samples hundreds of kilometers from the site of the explosion. Be that as it may, the TASS statement was received by the world community with conflicting feelings. This was considered by many to be a step that put an end to the threat of atomic war. It is no coincidence that the famous American

In the early post-war years, the Soviet politician H. Kissinger wrote: "The Soviet Union had another advantage in the early post-war years: the growing conviction of the public in the non-Soviet part of the world ... that a nuclear war was an incredible catastrophe" 25 .

What about Washington? There, the TASS report caused a storm. The militant part of the public demanded the immediate unleashing of a preventive atomic war against the USSR. However, the war did not happen: it turned out that the United States would not be able to win such a war, even deliver the first tangible blow to the USSR. At the end of 1949, the US had 840 active strategic bombers capable of carrying atomic bombs, and about 250 bombs themselves. Of course, even such a quantity of nuclear weapons was impressive, but the performance characteristics of carrier aircraft made it possible to reach Moscow, Leningrad and other cities in the European part of the USSR when operating from air bases in England and other countries of Western and Southern Europe. However, at that time they were clearly not enough, and most importantly, now it threatened the Soviet atomic strike of the Western European allies of the United States, and this to a large extent changed the world situation. The news of the appearance of the atomic bomb in the USSR excited the whole world, and, of course, America in the first place. The version immediately developed that the Soviet Union, with the help of its agents, was able to obtain the secrets of the American "Manhattan Project" and quickly create a similar bomb. Remembered about

major international scandal in 1945. Then Igor Gouzenko, a cipher clerk at the Soviet embassy in Canada, asked the Canadian government for political asylum and handed over to the Canadian police information about a network of Soviet intelligence officers who were working to reveal American atomic secrets. A series of arrests followed, and eventually the Western services got on the trail of the Soviet "super spy," as he was called, the physicist Klaus Fuchs, who worked at Los Alamos.

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Since then, the theme of Fuks as the man who ensured the success of the Soviet Union in creating its own atomic bomb in a short time has not left the pages of military and scientific historical literature. According to numerous versions, the role of Soviet scientists - I. V. Kurchatov, Yu. B. Khariton, A. B. Zeldovich, as well as the creators and organizers of the nuclear industry - was minimal, and the role of intelligence was the main one.

Indeed, our first bomb detonated at the test site
near Semipalatinsk, was a copy of the American bomb.

In this regard, a question arises that still causes controversy: who played the main role in the creation of atomic and then hydrogen weapons in the USSR: science or intelligence? When in 1992 academician Yu. B. Khariton was asked if it was true that the first Soviet atomic bomb was a twin of the first American, he replied: “Our first atomic bomb is a copy of the American one, and I would consider,” he added, “any other action at that time unacceptable in the state sense. Deadlines were important: whoever possesses atomic weapons dictates political conditions." Then the correspondent asked the academician:

" — Who is this person who passed on the bomb diagram? After his trial, this

“Klaus Fuchs,” the scientist replied. The West has — without much
the history on become well known. We have it in scientific circles somehow
of meaning was hidden, it was even V Not accepted
possibleto talk about it.

fuchs, O the existence of which we then, of course, did a great deal, allowing did not know, us to speed up the work. Of course, everything needed to be checked, calculated, since the message could be cunning disinformation. In the end, they were convinced that everything was right, they had the right to act differently. And without Fuchs, they would have come to Unconditionally. Were

And reproduced the product. I repeat: we Not

—

such a result? ideas that

— And needed to be promoted all this took time" V more

But 26.

perfect sides,
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Indeed, the situation that had developed by the middle of 1949 forced us to hurry. The Americans already had more than 250 atomic bombs and 840 aircraft carrying these weapons. In addition, in the spring of the same year, the NATO military-political bloc was created, directed against the USSR. At the same time, the Soviet Union had neither the atomic bomb nor the means to deliver it to the American continent. The approaching victory of the communist forces in China further exacerbated the situation in China.

the world. The Soviet Union urgently needed to find an adequate response to the likely threat of an atomic attack, and such plans in the United States were already being developed, refined and improved.

But all this does not mean at all that only penetration into American atomic secrets gave the USSR nuclear weapons. No! In the closed "atomic city" near Nizhny Novgorod - Arzamas-16 (the city of Sarov), employees of the team of Yu. . These bombs turned out to be several times lighter than the American ones and, moreover, several times more powerful and had an original fuse that was completely different from the American one. But the unfolding "cold war" demanded a response to the American challenge.

The Soviet government, and in the first place, I. V. Stalin and L. P. Beria (the leader of all work on the atomic problem in the USSR) insisted on the speedy creation by the Soviet Union of its own atomic weapons. Therefore, the scientific team of Yu. B. Khariton was forced to slow down work on their own projects in order to immediately recreate the American bombs already tested in Alamogordo, Hiroshima and Nagasaki. Without that serious scientific and production base that was created in the work on atomic weapons in the USSR in the 30-40s, any data obtained by intelligence officers would have been useless. 69

This, of course, does not mean that that intelligence was not valuable. No, their role is very important in the implementation of the Soviet uranium project. Important, but not decisive.

About ten years ago Academician A.P. Aleksandrov said:

“... Neither Kurchatov nor other project participants hoped - they were looking on other people's ideas Not for their own. neutron fission of uranium By the time the discovery cleared the way for the practical mastery of atomic energy, our research in this area To were already in their laboratories IV world level. Kurchatov, I. Alikhanov, L. A. Artsimovich, P. I. Lukirsky of the Leningrad Institute, and K. D. Sinelnikov of the Kharkov Institute of Physics and Technology. By the way, Soviet scientists had of information, intelligence data. Knowing the latest

how the curtain of secrecy of a foreign researcher came down, finding work of a major scientific his name (and publications of interests), changed the field of his scientific it was hard to determine what moving volume same direction of atomic that this direction will be tested secret work" 21 .

In the same interview, A.P. Alexandrov recalls:

“The first job that Kurchatov entrusted to me was this thermal diffusion separation of isotopes. Nothing cunning war, before the German Fiztekhov technologies was. publications, it was reported AND seminar. By to Kurchatov, apparently, sunk "But he objected: on This after all in memory.

I on the same seminar Artsimovich

suggested other, more promising ways of separation." Igor Vasilyevich said that he would try exactly different ways. I say: "But why do something that he does not know what will be needed.On - needed?" just in — "Damn him and "So after all, large energy costs, it case you have to go this one." will be very expensive." way — "Now the prices!"» not up to [28].

As it turned out later, the Americans followed this path. They built a thermal diffusion plant, and it worked for them. And in the Soviet Union, although they made a rather large installation at one of the Moscow power plants, where they conducted experiments and achieved

isotope fission, but abandoned this method because they found a more efficient one.

The problem of obtaining ultrapure graphite was also extremely important, over which, under the direct supervision of Kurchatov, many scientists fought at that time. (By the way, the German "uranium project" did not work out precisely because Heisenberg rejected graphite as a moderator in favor of heavy water.) So the point is not the disclosure of the atomic secret, but the

inevitability of the movement of scientific and technical thought, which no secrecy will stop .

And yet, what was the role of intelligence? After all, the people who led and, most importantly, directly carried out the task of the Center, had to be not only professional intelligence officers, specialists in undercover work, but also well versed in physics in order to correctly assess the information, the competence of agents, send accurate answers to Moscow. Based on the tasks assigned to it, Soviet scientific and technical intelligence could not ignore the discovery in 1939 of a chain reaction of fission of uranium nuclei, leading to the release of enormous energy - a real prospect for the creation of nuclear weapons. There was a growing danger of an attack on the USSR by fascist Germany, and she, having strong nuclear physics, could create atomic weapons in the foreseeable future. Therefore, in the fall of 1940, a directive was sent to a number of residencies to identify centers for nuclear physics research engaged in the development of atomic weapons, and to obtain reliable information from them about the progress of these works. And it was then that a person, perhaps simply unique in this area, was found, L. R. Kvasnikov - the only intelligence officer who, thanks to his scientific training, was able to correctly assess the opened prospect. He knew the pioneering studies of the nuclear fission of uranium by the Soviet physicists G. N. Flerov, K. A. Petrzhak, Yu.

After the outbreak of World War II, when the European countries were occupied by Germany, the situation for the work of our intelligence became extremely complicated, and to deploy in

Third Reich, a new network of agents was not possible. Therefore, the center of application of the forces of the Soviet scientific and technical intelligence (NTR) now became the United States and Great Britain - countries in which, most likely, there could be a significant progress towards the creation of atomic weapons. In January 1941, an orientation was sent from Moscow to the New York residency that work was underway in New York, Columbia University, and the University of Minnesota to use uranium-235 energy. It was proposed to verify this information and establish whether and what kind of research is being conducted at Columbia University, which was within the reach of our residency.

As usual, there were various reports, and from them it was necessary to extract precious grains for us. Such was the information that in November 1941 professors G. Urey and J. Pegram were in London - as expected, in order to familiarize themselves with the progress of work on atomic weapons in England. But even earlier, on September 25, London resident V. Gorsky received an extensive document on the activities of the uranium committee. Its content unequivocally spoke of the development of work on the creation of an atomic bomb: data on its design ("gun-type"), on the value of the critical mass of uranium-235, on the initiator for initiating a chain reaction in it, on the production of this uranium isotope by gaseous diffusion, on scientific and industrial centers and participants in these. works.

The leadership of the NKVD, and above all L.P. Beria, took this report as misinformation, but the further course of events around the atomic weapon showed the reliability of the data obtained by the London residency. In February 1942, front-line scouts of the
Red Army seized papers from a captured German officer,

which were delivered to the scientific department of the State Defense Committee (GKO), where it became obvious from them that the German Wehrmacht intended to have atomic weapons ... In March of the same year, Beria decides to send Stalin a document compiled by scientific and technical intelligence based on information received in London back in December 1941. So, it contained an extremely important proposal to consider the question of creating a special department under the State Defense Committee to organize and direct work on the creation of an atomic bomb. After the well-known letter of G. N. Flerov and other information received from Stalin at the end of 1942, a meeting was held with the participation of academicians A. F. Ioffe, N. N. Semenov, V. G. Khlopin and P. L. Kapitsa, at which and It was decided to start creating Soviet atomic weapons and to form a special center for this purpose. And the center called "Laboratory No. 2 of the Academy of Sciences of the USSR" began its work in March 1943. All this made it particularly urgent to set up in the United States and England an intelligence network of well-informed specialists, direct participants in
nuclear programs, in a short time. The pace of this task in New York and

London turned out to be different. In London, an intelligence network has developed and worked since 1943. The state of affairs in New York is evidenced by a letter to the resident in June 1944,
which states that "along with the presence of positive aspects in the development of "Enormous" (the code name for the problem of atomic weapons. - unsatisfactory. During our work on "Enormous" ... A. ABOUT.) its course as a whole remains
apart from agent "D" we have nothing. "T" (Klaus Fuchs. - the count does not go ... " A. O.) V

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An analysis of the state of affairs in New York, undertaken by the Scientific and Technical Center in 1944, led to the conclusion that the positive results achieved in the undercover development of Enormoz as a whole relate mainly to the achievement of the London residency. The New York Group was instructed to ensure strong

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turning point in the work on the problem of Enormosis. The situation began to improve after the organization in New York of an independent station of scientific and technological revolution under the leadership of L. R. Kvasnikov and the recruitment in 1944-1945 of several agents who had direct access to information on the development of the design of the atomic bomb and its
test.

In London, the receipt of information was organized quite clearly. In addition to information about the general state of affairs with atomic weapons in the USA and Great Britain, the Center was sent information on the chemistry and metallurgy of uranium and plutonium, reactors with graphite and heavy water moderators - originals or copies of reports from American and British research centers. These materials also contained the most important data on the properties of neutrons with different energies, on refined nuclear constants, etc. In general, a certain specialization of residencies took place in itself: the New York one supplied more information about the atomic bomb itself, and the London one about the production of materials for its manufacture and on important aspects of nuclear physics. So, in the end, their joint efforts covered many significant aspects of the design and manufacture of the bomb30 . The Center for Scientific and Technical Intelligence understood that under the conditions in which this information was obtained, it could be incomplete or already known to our scientists, or even contain incorrect information as a result of erroneous searches by Western scientists. However, its invariable merit was that it always reflected the level of research achieved in the USA and

England, as well as the ways of their practical application in a given period, and was free from disinformation. This is explained by the fact that Soviet intelligence received this information from the direct participants in nuclear development, and they cooperated with it based on their moral and political convictions, were trained in the methods of intelligence activities, were verified, reliable and acted completely disinterestedly31 .

But why? Yes, because many Western intellectuals then sympathized with the ideas of socialism. Today, when it became clear that the Stalinist model of socialism, which was created in the USSR, did not justify itself, socialist ideas have lost their appeal in the world. (Although, as you know, “one rain is not yet rain,” and if, say, a person is unlucky with a wife or husband in the same marriage, this does not mean that one should not marry at all.) And then socialism still had authority in world, and before the war, and in the first post-war years: after all, the communists in the countries occupied by the Nazi Reich were in the forefront of the resistance movement. According to the memoirs of V. B. Barkovsky, an employee of the London residency, one of the British physicists himself came to

the Soviet diplomats with his data. He did not take a penny from the Chekists, nevertheless supplying information of the highest importance. In the end, Barkovsky's boss ordered at least the informant, who was obviously undernourished, to be properly fed: in England, as in the USSR, at the height of the war there was food distribution. Barkovsky lured the informant to a restaurant, but he refused food and drink, and then scolded him for being

squanders money in those days when the soldiers of his country are dying near Stalingrad32 .

Realistically assessing its contribution to the creation of domestic atomic weapons, intelligence never put its successes above the achievements of scientists, and this eliminated annoying contradictions in assessing the contribution of both sides. A. A. Yatskov, one of the main actors in the Enormous operation33, writes convincingly about this . As you know, the GRU, our

army intelligence, and not the NKGB, was mainly connected with Fuchs, and Colonel S. D. Kremer, an employee of the residency in London, began this work. During the war years, the Soviet embassy was often visited by a German emigrant who had fled Germany, Dr. Kuchinsky. Once Kuchinsky told our ambassador I. M. Maisky that in England, in the atomic research center 75

has been working since 1934 by his friend Fuchs. Maisky remarked that it would be nice to arrange a meeting with him. Kuchinsky managed to persuade Klaus Fuchs to meet with Kremer.

The meeting took place in the summer of 1942 on one of the quiet streets of London. We started the conversation in German and then switched to English. Fuchs stated that he agreed to help the Soviet Union for ideological reasons. He refused the money, noting that the British paid him well and he did not need anything. He had only one indispensable condition: his material should be on Stalin's desk in a matter of hours. Kremer did not have a direct connection with Stalin, but there was a connection with a person who visits Stalin. In short, the condition was accepted. At the second meeting, Fuchs handed Kremer a large notebook (about 40 by 20 centimeters) filled with formulas, and

said: "Here is everything that your specialists in organizing work on the creation of atomic weapons need to know."

The materials were urgently sent to Moscow. Moscow confirmed receipt and ordered not to lose contact with Fuchs.

Thus began work with Klaus Fuchs, who transmitted the most valuable "atomic information". Beria's March memorandum to Stalin was drawn up precisely on the basis of Kremer's materials. But when, after the decree of the State Defense Committee of the USSR in June 1943, the external intelligence service of the NKGB became the head organization for obtaining information on atomic weapons, information from Fuchs came already through the channels of this intelligence service. Intelligence data played an important role in the Soviet government's decision to start developing an atomic project. Kurchatov's first reviews of intelligence materials in March 1943 show the significant significance of these data in shaping the Soviet scientific program for the creation of atomic weapons: a bet on plutonium, which can be obtained in a reactor, and on 76

gas diffusion method for the separation of uranium isotopes. In the future, information received from intelligence increasingly expanded knowledge of the work being carried out in the United States. At first, the attention of intelligence was focused on the design of the bomb and its performance data, but the need for the nuclear industry soon became obvious, and above all the one that produced fissile materials - uranium-235 and plutonium-239. Residents in London and New York were instructed to obtain information on

modern engineering solutions of such production of the nuclear industry in England and the USA. Then there was a need for information about everything that made it possible to overcome various production difficulties. For example, one of the intractable problems in the production of uranium-235 by gaseous diffusion was the sealing of moving parts and fixed joints of separation chambers due to the high aggressiveness of uranium hexafluoride.

Among the information obtained were a method for determining the critical mass of a nuclear charge, and data on the initiator of a chain reaction in a plutonium charge of an atomic bomb, and drawings of molds for casting elements of a spherical crimp explosive projectile, and even a diagram and description of the design of an American atomic bomb tested in July 1945 , in accordance with which the first domestic bomb was designed. The reconnaissance provided valuable information about

the norms of permissible radioactive exposure, the technology for manufacturing uranium rods in protective shells, and, finally, the technology for extracting uranium from ore, which was recognized as so unique and effective that within a year we built a plant based on it. In April 1946, a detailed description of the design of the American experimental Fermi reactor was received, which played

an important role in the development of the Soviet reactor,

launched in December 1946. Later, in the 1950s, detailed information was obtained about powerful reactors for nuclear submarines. 77

From this far from complete list of the achievements of scientific and technological revolution, it is clear how wide the range of coverage by intelligence of theoretical, experimental and technical problems of creating atomic weapons and the nuclear industry as a whole was, and how significant was the contribution of scientific and technical intelligence to their solution.

Perhaps most important to the intelligence officers was that their agents were highly competent and conscientious. Here, for example, is an assessment of their work by academician A.F. Ioffe: "... The information we received has always turned out to be accurate and, for the most part, always complete ... the presence of such a perfect source of information reduces the amount of our work for many months and makes it easier to choose directions frees me from lengthy searches. I have not come across a single false indication"35 . Indeed, the work was structured in such a way as to ensure

maximum reliability of the information obtained. To do this, it was necessary to check and double-check the information received, compare it with data from other sources. This work required knowledge, resourcefulness, courage, the ability to take risks in extreme cases. Here is just one example, which was told by the famous intelligence historian V. M. Chikov.

Soviet intelligence agent Lona Cohen was supposed to smuggle important information from Los Alamos to Moscow. It was in 1945, shortly after the atomic bombings of Hiroshima and Nagasaki. She had to deliver to New York the representative of our residency, A. A. Yatskov, a bundle, and in it were drawings and a description of the American plutonium bomb. L. Cohen arrived in Albuquerque, a small resort town near Los Alamos. Employees of the Manhattan Project usually rested here, so in Albuquerque, special services checked the documents and luggage of passengers on trains departing from the city. When Lona approached the carriage, a security officer began to check her luggage. It consisted of a small suitcase and a bag. In addition, in
the hands of L. Cohen

there was a lady's handbag, where that bundle was located. Lona put down her suitcase and began deliberately nervously sorting through the contents of the bag, supposedly in search of a ticket. And at that moment she handed over the reticule to the conductor, who held it while she was "looking for a ticket." Moreover, when the inspection was completed, she entered the car with her things, without even taking the cherished handbag from the conductor. He himself ran after her, shouting: "Madame, you forgot your purse!" In New York, the documents were handed over to their destination36 . In another

case, as A. A. Yatskov recalls, an employee of the Soviet residency, already with information in his hands, unexpectedly

was interrogated by some persons who introduced themselves to him as employees of the immigration service. Suspecting something was wrong, the messenger did not dare to keep the material to himself. He copied it in secret script on a newspaper between the lines and wrapped a lamp of a very exotic appearance in this newspaper. So the material was delivered to the resident. But if the relations of
scientists with intelligence officers were devoid of any friction and the interaction was well established, then the relations of atomic physicists with the Soviet authorities were by no means always cloudless. On the one hand, among the leaders who represented the state and the military department in the work on atomic weapons, there were such people as B. L. Vannikov, E. P. Slavsky, A. P. Zavenyagin, M. G. Pervukhin, who, having huge organizational experience, in the atomic problem they started, of course, from scratch, but did not hesitate to learn and penetrated quite deeply into the essence of the matter. On the other hand, those who, according to the level of knowledge and experience of their previous activity, did not understand anything in atomic matters, but defiantly showed their power, if it was given to them. Many of them looked at the problem superficially: will it explode - will it not explode? Beria, to whom all the information flowed, apparently also understood the tasks of scientists and production workers in a very simplified way. For him, and most of the leaders below the rank, the consciousness of what was happening narrowed down to the actual bomb. It is unlikely that they thought about multi-purpose and 79

fundamental nature of research. For example, in 1945, it was Beria who imposed a ban on the idea of creating nuclear ships: first a bomb, then something else. But at the Institute of Physical Problems, even then they began to design a nuclear installation for a ship long before the American Nautilus.

Kurchatov and his like-minded people considered the military use of atomic energy to be forced and temporary. They saw the future of nuclear energy in its peaceful application, and nuclear theory in interaction with other branches of science.

But the real leader of this case on the part of the state was B. A. Vannikov. He was the chairman of the Scientific and Technical Council for the Uranium Project under the Council of People's Commissars of the USSR, and Kurchatov was his deputy. So they determined all the current decisions. The most important decisions passed, of course, through the State Defense Committee, through Stalin, through Beria. There were many among physicists who were seriously

disturbed by the widespread persecution in the highest echelons of state and especially party power against the advanced branches of science - genetics and cybernetics. Prohibitions on research in genetics practically harmed those who dealt with the atomic problem. Reactors, plants for the processing of radioactive substances, mines for the extraction of ore were being built in the country, and physicists were waiting for recommendations from geneticists on radiation protection. Within the framework of the Uranium Project, a radiobiological department (RBO) was established. It was headed by V. Yu. Gavrilov, an experienced specialist in nuclear

weapons. Both young people and prominent scientists worked in the department - R. Khesin, F. Shapiro and others. All were irreconcilable opponents of Lysenko. - recalled A.P. Alexandrov, -

“We, who hid our own, still tried to make our relationship with him. direct battles of RBO Lysenko. Because I disperse it. Then we found would have gotten involved without the department, they could simply ourselves with no brains in very important matter for us...

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Shortly after the war, it seems (most likely this the episode was not in 1946, but in 1948. — I was called to Party Central Committee and declared that quantum theory, the theory of relativity all this is nonsense. Some very understandable company gathered. Two figures especially tried to tell them very simply: "The atomic Moscow State University. bomb itself demonstrates such a transformation of matter and these new theories should energy, which something else. Therefore, bombs. do we must abandon quantum mechanics -

Please discard the bomb yourself as you wish 7.

Nevertheless, in the bowels of the Central Committee of the CPSU, a conference was being prepared on the problem of the ideological and party character of physical science, the struggle against "cosmopolitanism and idealism" inherent in a number of Soviet physicists. A meeting on the tasks of Soviet physicists was supposed to take place at the beginning of 1949, but did not take place. And the reason for this was the conversation between Stalin and Kurchatov. . There are several versions of this conversation, but the testimony of D.V. Efremov, who at that time was deputy chairman of the State Atomic Energy Committee and directly participated in this conversation,

seems to us the most reliable. Here is what he said:

“This meeting took place at the end of 1948. Stalin invited Kurchatov to early 1949. said; "Comrade himself. Kurchatov, the Academy of Sciences is preparing a me meeting on physics. You will have to lead this report. It was preparing such a meeting, debacle idealism in where physicists were to speak, Kurchatov tried pronounce the main in en time to move away all the time, apparently, this became very important". known to Stalin. Igor Vasilyevich said: “Joseph Vissarionovich, we have a lot of work now, it is undesirable to distract people.” Stalin insisted: “Comrade Kurchatov, this is very important, I beg you.” side, “Joseph Vissarionovich, Russians, Georgians (namely at ". at in that order), Jews,

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Armenians, Ukrainians, Tatars, many others, some of God, even believe in purposefully, you can them off the physics of not tear But they all work, work desperately, ". "Comrade of business is a harmful Kurchatov, idealism please, the way Comrade Lysenko did. their physics." thing. Do it, He crushed Weismannists. Exactly the same Morganists- must be done

Vissarionovich got up, this will prevent us And, worried, said: "Joseph Then Igor
from ensuring the implementation." Stalin, noticing the state of Kurchatov, your task on
the defeat of idealism) we'll do time "Don't worry, comrade Kurchatov, worry. This is
said: it later. You better tell me to make atomic tactical weapons?" ... So
(That Not
I can whether
Igor Vasilyevich saved physics from destruction"[38].

Stalin, apparently, quickly grasped Kurchatov's main idea: the dispute between the supporters of the exposure of "idealism", on the one hand, and "cosmopolitan scientists", on the other, is clearly a secondary phenomenon in comparison with the main task: the creation of an atomic bomb. There - philosophical and ideological disputes, here - a materially tangible result: the Soviet atomic weapon, which will dramatically change the course of the confrontation between the two social systems. Being a realist (and both his supporters and enemies always recognized this), he made his choice: the bomb is more important than ideological disputes... The offensive of scientists against the atom continued. Already by the time the first atomic bomb was tested in the Soviet Union, the general line for the further work of the leading
organizations in the nuclear industry was determined: to achieve a significant increase in the specific power of atomic charges while reducing their size and weight. Two main directions emerged. The first was the use of new designs of the central nuclear charge (in particular, using highly enriched uranium) and a conventional explosive charge that compresses the nuclear charge to transfer it to a supercritical state, leading to a bomb explosion. The second direction was connected with the implementation of the idea of external

neutron initiation, which made it possible to sharply increase the degree of use of nuclear materials in comparison with
the old scheme of internal initiation.

Both of these schemes were proposed in 1946 by Ya. B. Zeldovich, who at that time was not yet aware of the principle of operation of the American atomic bomb. Meanwhile, the first version largely reproduced the scheme of the American plutonium bomb "Fat Man". The analysis of both schemes, made by L. V. Altshuler, showed the advantage of the second option. However, the main attention was paid to the development of the first scheme. As Alt-schuler recalled, in the autumn of 1947 he asked Yu. B. Khariton: "Why are we going for such a deliberately ineffective first option?" He replied that they were more confident in this option, because they take in advance such an amount of active material that is close to the critical mass, and then increase its density with the help of an explosive. After all, they know approximately how much explosive is needed to make the bomb work well, since they know the hatch of an American Boeing39 .

Altshuler did not know that Kurchatov and Khariton knew the design of the "Fat Man" received from Klaus Fuchs in 1945. The situation required a quick result in work on

an atomic bomb - so we went according to the first option, close to the American one. But already in 1950, the task was set to create

an aviation atomic bomb weighing 3 tons and with an equivalent power of 25 kt of TNT. The weight and dimensions of the new product were set by the characteristics of the promising Tu-16 bomber designed at the Tupolev Design Bureau. With the same carrying capacity and flight range as the Tu-4, this jet aircraft had to fly twice V accordance with tactical and technical

as fast, which significantly increased its ability to successfully overcome enemy air defenses compared to the Tu-4. In the same years, a serial bomb was developed, which, with a weight of 3 tons, had a power of 40 kt of TNT (in RDS-1

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were 5 tons and 20 kt, respectively). Such remarkable features of the bomb were achieved thanks to a fundamentally new design of the system, concentrating the action of a conventional explosion on a central atomic charge. The bomb was designed in two versions: RDS-2 with pure plutonium and RDS-3 with a composite uranium-plutonium charge. Great difficulties in obtaining highly enriched uranium-235 used in nuclear charges. The task turned out to be a much more difficult technological problem than the accumulation of plutonium. And yet the problem was solved. Simultaneous

development of two separation technologies - gas-diffusion electromagnetic (under the direction of L. A. Artsimovich) - made it possible to use uranium-235 in nuclear charges, due to which a large saving of extremely expensive plutonium was achieved.

arose

And

While scientists were creating more advanced atomic bombs, preparations for their testing were in full swing at the Semipalatinsk test site. In 1951, test explosions of two atomic bombs created by the team of Yu. B. Khariton took place. In contrast to 1949, when the availability of plutonium was barely enough for one charge, in 1951 it was possible to test both versions of the bombs at once, each of which was made in triplicate. It was decided to first

detonate the RDS-2 bomb on the tower, and then drop the RDS-3 from the aircraft. The RDS-2 bomb was tested on September 24, 1951 under conditions close to those of the RDS-1 tests. For this, the tower and all the facilities of the experimental field at the Semipalatinsk test site were completely restored. The RDS-2 test included an essentially new element: checking the effect of an atomic explosion on the Tu-4 aircraft. He flew over the tower in such a way that the shock wave
from the explosion caught up with him at a distance of about 20 kilometers. The plane experienced a strong push from the shock wave, but there were no difficulties in piloting.

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Two weeks later, in an interview with Pravda, I. V. Stalin answered the questions posed to him about the ongoing

Soviet Union tests of domestic atomic weapons. Answering a question from a Pravda correspondent what he thought about the hype raised in the foreign press about atomic explosions in the USSR, Stalin said: “Indeed, we recently tested one of the types of an atomic bomb. and henceforth under the plan of defense of "our country from the attack of the Anglo-American aggressive bloc. "Further developing this theme, Stalin stated that Soviet atomic tests should not give any reason for alarm in the United States, where they believe that they can be a security threat USA He recalled that the USSR had repeatedly proposed to ban atomic weapons and stop their production, but "each time received a refusal from the powers of the Atlantic bloc. " Perhaps, the Soviet leader said in conclusion, that "supporters of the atomic bomb can only go for a ban on atomic weapons in the event that they see that they are no longer monopolists. 40 The main test took place on October 18. The first aviation atomic bomb, RDS-3, entered the “final exam”. Its assembly, equipment and suspension to the Tu-4 aircraft (commander K. Urzhuntsev) was carried out at the Zhana-Semey airfield near Semipalatinsk.
The bombing target was a highly visible white circle. A bomb dropped from a height of 10 kilometers after a minute of free flight exploded at an altitude of 400 meters at a distance of about 300 meters from the target. The crew of the plane saw a very bright greenish flash. A minute and a half after the explosion, everyone felt two jolts quickly following each other, accompanied by a strong sound: the plane was caught up first by the falling shock wave, and then reflected from the ground. There was no damage to the aircraft or crew injuries, and he confidently walked on course. 85

Nuclear scientists were confidently moving towards their goal. The next major step was taken three years later. Carried out in October 1954, air tests of the modified RDS-3 "I" bomb, equipped with an external neutron initiation system, showed that its equivalent yield increased to 60 kt. In the USSR, mass production of atomic bombs began.

By that time, the Tu-16 bomber, which replaced the Tu 4, had successfully passed flight tests and was already being produced in large series (70 were produced in 1954, 300 in 1956; by 1960, 1,000 aircraft had been produced in total). The Americans also did not
stand still. In 1951, 12 low-yield atomic bombs intended directly on the battlefield were tested at a test site in Nevada, and in May 1953, an artillery shell with a nuclear "stuffing" was tested. For use

It goes without saying that work on the creation of tactical nuclear weapons was also launched in the USSR. At the same time, the weight of the first domestic tactical air bomb was equal to one ton, and its dimensions were chosen in accordance with technical specifications.

data from the Il-28 front-line bomber. This first bomber, domestically designed in 1948 at the Design Bureau of S. Ilyushin, became the most massive: about 6,000 reactive bombers were manufactured. A significant reduction (compared to RDS-2, -3) in the size of the new bomb required a huge amount of experimentation from the creators of atomic weapons. The staff of the nuclear center reached the final stage by the summer of 1953. The bomb was dropped from the Il-28 at the Semipalatinsk test site on August 23 of the same year.

Thus, in a short time, a small-sized, but huge power (equivalent to 30 kt of TNT) nuclear charge was created, which entered service with tactical aviation. Serial production of the new bomb began the following year, and it was affectionately named "Tatyana" - like the successor to the "Katyusha" of the times

war. Later, its nuclear charge was used in the warhead of the R-5M strategic missile, developed and tested under the leadership of S.P. Korolev in early 1956. On the basis of the design principles established during the development of the Tatyana, a whole family of tactical bombs of lower power was created and successfully tested in 195441 . So, the joint efforts of scientists, intelligence officers and production workers of the USSR led to the successful solution of the most important state task - the acquisition of atomic weapons by our country. This raises the question of the role of intelligence in the creation of the hydrogen bomb, which appeared in the

USSR four years later. Moreover, in the domestic press of recent years it has been announced more than once that Soviet scientists themselves did nothing in this area, but got everything thanks to intelligence officers. But here is what Yu. B. Khariton said in an interview with the Krasnaya Zvezda newspaper:

"The head of the theoretical department of Los Alamos, Hans Bethe, the idea of a hydrogen bomb, writes that Edward Teller, who came on October 50th January To despair: his Hungarian work is serious With 51st was a mathematician By Stanislav Ulam discovered errors, V the design was postponed. erroneous V

Part from these — — materials, naturally came to us, No, we use it. bomb. And scouts thought we their And who can be And we had our own independent path To hydrogen considered

— a "father"? You know, this is a very difficult question.

— The role of Sakharov is very great, he himself claimed that this is a collective matter, the greatest contribution was made by Ya. Zel'dovich But He Trutnev (today my first deputy), a number of other people. A A hydrogen bomb is an insanely complex thing, with our poor mathematical, And XU calculating and machine He technology, it was extremely difficult to work. But the side of intelligence is correct, we have absolutely nothing —

co

received.

In 1952, the Americans carried out the first thermonuclear explosion, the device was very heavy
But — about tons60
87

They tested a real thermonuclear bomb in 1954. the first aircraft was ours on
the surface of the Pacific atoll thermonuclear bomb dropped in V A
1955 " With — This
42 .

At first, the Americans associated the "Russian miracle" with the betrayal of Fuchs. However, they quickly figured out that this could not happen, since Fuchs was exposed and ceased his activities in favor of the Soviet Union before the development of the hydrogen bomb began in the United States. Then it was suggested, which turned into a certainty, that the Russians were able to take the products of the explosion of the first thermonuclear test in the United States in 1952, which spread in the atmosphere, and decipher them. Indeed, certain information is contained in the radioactive products of the explosion. Did Soviet scientists get useful information for the design of hydrogen weapons as a result of radiochemical analysis of atmospheric samples after a thermonuclear explosion in the USA on November 1, 1952? Scientists (and not only domestic scientists) answer this question in the negative. The fact is that the radiochemical analysis of air samples at that time in the USSR was still at an insufficiently high level and did not give useful results. And later, when such work was well organized, Soviet scientists were more interested not in radioactive elements, but in the ratio between various isotopes, from which the presence of certain nuclear and structural materials was deduced.

In 1953, Soviet atomic scientists independently prepared and tested their own hydrogen bomb, the so-called "Sakharov puff". At the same time, the bomb was being prepared for testing in a combat version. And the main thermonuclear fuel in it was completely different compared to the American hydrogen bomb. At that time, it seemed that work on the hydrogen bomb would follow its own, domestic, path, developing the first success. However, events towards the end of 1955 were unexpected.

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given it a completely different direction. Here is what A. D. Sakharov writes in his "Memoirs":

November 1953 I was summoned "In To yourself IN. A. Malyshev, asked
Minister of Medium Machine Building, memorandum, next- And to introduce which to write how I draw
generation product, its principle of V
operation, approximate characteristics. Of course, I should have refused, said that such things are in And
progress and by one person; what you need to look around, think. But there was an idea, not too original
and successful, it seemed promising. To consult me was to write the required memorandum.I am who.
Not are made me
me
but at that moment
Not With

Two weeks later, the I was invited to a meeting of the Presidium of the CPSU. The meeting on resulted in two resolutions,

Central Committee, soon adopted by the And Central Committee of the them Council of Ministers, obliged our ministry CPSU. One of the 1954-1955 years to develop And test the product that I announced so inadvertently... Another decree obligated rocket scientists to develop an intercontinental ballistic missile for this charge. the whole scale is significant that the weight of the charge, hence the missiles were taken on the basis of my memorandum. This predetermined huge design and production organization A And the work of the entire on for many years" [43].

Scientists focused on bringing the new design to the test. In fact, they worked on its creation only in 1954 and early 1955.

In November 1955, a new type of hydrogen bomb was tested, the result was stunning. All other options were crossed out. If we talk about the influence of American work on similar weapons on the creation of the Soviet hydrogen bomb, then we can definitely say that in the USSR there were no drawings or accurate data received from outside, although information received from intelligence in September 1945 about the American theory of the "classic super" had a lot for our scientists

meaning. 89

Thus, in the creation of the hydrogen bomb, the USSR followed its own path, unbeaten by anyone, and received better results than the Americans. But that was later, and then, in the early 50s, there was a fierce competition between the superpowers: who would have the hydrogen bomb faster. In November 1952, as already mentioned, the United States tested a ground-based thermonuclear device. This device (codenamed "Mike") was detonated on Eniwetok Atoll in the Pacific Ocean. Its TNT equivalent was 10.4 million tons. But it could not yet be called a bomb, because it was too heavy for any carrier of nuclear weapons. The Soviet Union accepted a new challenge from across the ocean. In August 1953, when everything was ready for testing the Soviet hydrogen bomb, four days before the test, the Soviet government issued the following statement:

"It is known that behind For a long time, the supporters of the war entertained themselves with the illusion that the United States of America had a monopoly on the production of the atomic bomb. Life, however, has shown that there was a profound error here. The United States of America has long

Not are monopolists in the production of atomic bombs. Of late, the overseas opponents of peace have found new solace for themselves. The United States of America, you see, a weapon more powerful than the atomic bomb, is the monopoly of the hydrogen bomb. whether, own

This, apparently it would be like that. The That a consolation to them, if reality. But corresponded This Not government believes

necessary to report to the Supreme Council that the United States does not have a monopoly on the production of the hydrogen bomb" and in
44.

And at the test site, everything was like during the first explosion of the atomic bomb in 1949. And the general excitement of the participants, and the nervous tension in the agonizing moments when the countdown of seconds before the explosion began, and the dull blow of the blast wave on the structures where the testers were, and the joy of victory when it became clear that the test was successful. 90

Participant of all tests of that time - S. L. Davydov
later wrote:

"We ran outside, I wanted to see the results of the explosion. so terrible. Pillar
The spectacle was a majestic dust-diameter sky. The And together With
experimental field was able V climbed high for several kilometers V
to penetrate the dust. kind of cloud. The explosion was V dark, sunbeams Not
of such force that the metal pipes of the instrumental gray was creeping up above
brown poisonous structures, located

600-1800 meters in radius, turned out to be bent. The destruction of the experimental structures of the buildings was enormous. A concrete cube specially placed at the epicenter was thrown back by a column of a huge, glowing mushroom grew up, rising to the sky. In its upper part, hot masses of gas were mixed. And
From below, a black pillar stretched out to him; a white annular cloud appeared at V 500 meters from the the top of the mushroom around the cap. on same concrete foundation was torn off And
After a while, on considerable distance. Above experimental field from
the mushroom began to lose shape.

To

from the earth To

on

And 45 slowly descend" .

Those present looked at this spectacle as if spellbound. Everything seen was significantly different from the first atomic explosions. The creators of the bomb and its testers, who were aware of the unprecedented destructive power of the new weapon, were nonetheless happy for themselves that they had taken part in such an important cause for the country, happy for the creators of such powerful weapons, happy for their country. To understand their joy and pride, one must remember the international situation of that time. The Korean War had just ended, during which Washington was considering plans to launch atomic strikes on China. The confrontation between the military-political blocs resulted in conflicts and incidents. The threat of the use of nuclear weapons was in the air. And in this situation, the participants in the tests understood that our country was reaching parity with America in the development of nuclear weapons, and this was part of their work. 91

The hydrogen bomb in the USSR was detonated on August 12, 1953, and a few days later, on August 20, a message from the Soviet government about the test was published in Pravda and other Soviet newspapers. It said;

"The other day V Soviet Union V test purposes was

explosion of one of the As a result of the types of hydrogen bomb.
implementation V hydrogen bomb powerful thermonuclear reaction
explosion was of great force. The test showed that the power of the hydrogen bomb is times greater than the power of atomic bombs. It is known that the Soviet Union has owned in a lot of

atomic weapons and carried out appropriate tests of these weapons. As follows from the speeches of the Chairman of the Council of Ministers of the USSR G. M. Malenkov 8 August 5th p. at the session of the Supreme Soviet, the Soviet Union also seized the secret of the production of hydrogen bombs. The Government called abroad. Some foreign for their policy on

This
numerous responses
circles that staked on the atomic bomb, then US monopoly in
the hydrogen bomb, are trying to frighten the peoples with the fact that the Soviet Union possesses the secret of the production of hydrogen weapons, to cause alarm, using it in
And V connections With this
for the purposes of the arms race. The
Soviet Government deems it necessary to state that, in the first place, there are no grounds for such as in the anxiety. The government has repeatedly proposed to the governments of other
accordance With countries to carry out a significant reduction in armaments, to prohibit the directed Soviet on weapons of mass destruction, And use of atomic and other types of
and to establish strict international control over this prohibition within the framework of the United Nations. The Soviet Government firmly stands at the present time"
And And

on this position And V
46 .

This message was, as it were, a touchstone of the policy of the USSR leadership towards the West. must have

92

mind that it was August 1953. Half a year had not passed before Stalin died, a month ago the almighty L.P. Beria was arrested. The new leadership in the person of G. M. Malenkov and N. S. Khrushchev tried, on the one hand, to show that the nuclear power of the USSR was growing and that it was ready to oppose the USA and NATO on an equal footing (although this was not the case); on the other hand, it demonstrated a desire to build bridges in relations with the capitalist countries, to try by political means to somehow alleviate the tension between East and West, which had intensified after the victory of the Communists in China and during the Korean War.

One of the important aspects of our country's relations with Western democracies was precisely the nuclear issue. In which direction will the vector of development of nuclear energy be directed: towards peace or towards war? So far, the military direction has prevailed. The thermonuclear explosion was the first, but not the only one in a series of tests in 1953. In the same year, new types of atomic bombs were also tested at the test site. bombs were
dropped

from airplanes. There were three explosions. The series of explosions carried out was a very significant factor in overcoming the American monopoly. This made it possible to extend the palm branch of peace to a nuclear opponent and show the world community

that although the USSR possesses powerful destructive weapons, its thoughts are directed towards the peaceful use of nuclear energy.

Therefore, a month after the explosion of the hydrogen bomb at the Semipalatinsk test site, on September 18, a TASS message was published about the further intentions of the Soviet Union in this area. It said:

"For recent weeks, V accordance With plan scientifically in research work in the field of atomic energy, the Soviet Union tested several types of atomic bombs. The tests were successful. They fully confirmed the calculations of the assumptions of scientists, engineers and designers.

And And

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It is quite understandable that as long as responsible US circles reject the USSR's insistent proposals to ban atomic weapons, the Soviet Union, proceeding from security requirements, will have to pay attention to the production of atomic weapons. At the same time, the Soviet Union will follow the policy of strengthening peace among nations, seeking an unconditional agreement on other types of weapons of mass destruction, a significant reduction in armaments, and the establishment of strict international control over And henceforth the implementation of these decisions. Along

With other countries prohibition of

atomic, hydrogen And

behind

With this V The Soviet Union is working on the use of atomic energy for By industrial purposes; The Soviet Union considers it its most important task to ensure that atomic energy is placed at the service of the cause of peaceful progress (TASS)"

on

47 .

After the unexpectedly rapid creation of nuclear weapons in the USSR, the West experienced a severe shock that had deep and long-term political and psychological consequences.

character. Back in January 1950, President Truman ordered the Atomic Energy Commission to continue work on all types of atomic weapons, including hydrogen . Since the Rubicon of the thermonuclear arms race was crossed, into which, following the United States, the Soviet Union was drawn first,

and then England and other countries. A nuclear confrontation has begun.

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CHAPTER II USA - USSR: AIR BLITZKRIEG

AND TANK MARCH

The atomic explosion over Hiroshima echoed around the planet. New unprecedented weapons have changed the face of the world. The world community was horrified by what they had done: a huge densely populated city that did not have military facilities was wiped off the face of the earth by two-thirds, 140 thousand of its citizens died in an instant. But official Washington was delighted. The news of the successful atomic attack on Hiroshima caught President Truman in the Atlantic Ocean on the cruiser August. He was returning from the Potsdam Conference. Satisfied with the success of American weapons, the President, after shaking hands with the captain of the ship, said: "Today is the greatest day in the history of the world!" He explained to the assembled officers what an atomic bomb was, and concluded his speech with the words: "The case was successful. We won the bet."

These are the concepts used by the president of the richest country in the world. The destruction of the center of ancient Japanese culture (and Hiroshima was one of such centers) and the death of tens of thousands of its inhabitants were estimated in terms of the New York Stock Exchange. Incidentally, in 1946, when Robert Oppenheimer, the American Kurchatov, told the President that after the barbaric bombardments of Japanese cities, he and his colleagues felt "blood on their hands," Truman replied: "Nothing, it is easily washed off with water. " But that was later, and then, immediately after the release of

the "Baby", at the air base of the island of Tinian, a new one, this time a plutonium bomb, was hastily prepared for strikes against Japan. Why hurry? Because it had to be dropped before the Soviet Union went to war with Japan. If this leads to the surrender of Japan before the start of the Soviet offensive in Manchuria, then all the laurels of victory in the Pacific War will be reaped by the United States. In connection with this, the dates for the release of the second bomb, "Fat Man", were constantly being reduced: August 20, August 11, 10, and, finally, it was firmly decided - August 9. This was due to the fact that during the Yalta Conference, Stalin promised to start a war against Japan

three months after the victory over Germany. He confirmed this in May 1945, talking with the envoy of the American President G. Hopkins. During the Potsdam Conference, the Chief of the Soviet General Staff, General of the Army A. I. Antonov, at a meeting of the Chiefs of Staff of the allied countries on July 24, called mid-August the most likely date for the entry of the USSR into the war. And now the Americans were in a hurry to force the Japanese government to surrender in the first half of August. The constant change in the timing of the second strike unnerved the participants in the upcoming operation. Both the commander of the 20th Air Force, operating from the Guam Islands in Japan, General
Limay, and General Farrell, and Captain Parsons, and their subordinate officers were anxious about the reduction

time to prepare for a new atomic strike. It seemed very dangerous 98

loading "Fat Man" into the B-29 bomb bay, which was supposed to be led by Major C. Sweeney. After all, Sweeney, although an experienced pilot, was far from the same as Tibbets, who served as both General Eisenhower's personal pilot and a B-29 test pilot. In addition, the design of the bomb did not allow this time to equip it with a fuse in the air, therefore, the take-off promised to be very risky. Spaats, the commander of strategic aviation, and his subordinates were also nervous: strikes against secondary targets would not remove the issue of an invasion from the sea and from the air - it turns out that we need to prepare for a series of atomic raids, including Tokyo, or really for the old plan for preparing a full-scale intrusions 2 . Major Sweeney was in direct danger, flying out in bad weather on a not quite serviceable plane. He was to repeat the dropping of the atomic bomb, this time on Kokura. It was August 9th.

The pilot's bad premonitions were justified. Kokura was obscured by dense clouds. Turning around, Sweeney took the plane to Nagasaki. But here, too, visibility was zero, and mainly because of the smoke from the factories that had been destroyed in previous raids burning below. Already starving for fuel, Sweeney abandoned all instructions and approached the target using radar. At the last moment, finding a gap in the clouds, he bombed. "Fat Man", having blown up a little away from the set target, destroyed 44 percent of the city, which from time immemorial served as the gates of Christianity in Japan. Sweeney made an emergency landing at an alternate airfield in Okinawa: he was running out of fuel. Although "Fat Man" and under adverse conditions destroyed more than 70 thousand inhabitants of Nagasaki, the expected effect was not achieved. The atomic bomb was dropped at 11:01 a.m. on August 9, and Soviet troops invaded Manchuria at dawn on the same day. And immediately after receiving the news on the radio on the morning of August 9 that the USSR had entered the war, Japanese Prime Minister K. Suzuki convened a meeting of the Supreme Council for the Leadership of the War

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Noah. The issue of surrender was brought before the council. Suzuki told those present: "This morning's entry into the war of the Soviet Union puts us completely in a hopeless situation and makes it impossible to continue the war." Thus, it was not the destruction of Hiroshima by an atomic strike on August 6, although, of course, this had its own special significance, but the entry of the USSR into the war against Japan at dawn on August 9 forced the Japanese government to raise the question of surrender for the first time.

Japanese historian N. Rekishi writes: "Although the United States is trying to present the atomic bombing of Japanese cities as the result of a desire to hasten the end of the war, in

in reality, these bombs, having killed a huge number of civilians, did not lead Japan to make decisions to end the war. "And he continues:" Not the victims among civilians as a result of the atomic bombing, but the entry into the war of the USSR led to the speedy end of the war "3 .

The same opinion was shared by those US military who directly led US troops in the combat zone. “The entry of the Soviet Union into the war against Japan,” stated the commander of the US Air Force in China, General K. Chennault in August 1945, “was the decisive factor that hastened the end of the war in the Pacific, which would have happened even if The rapid strike delivered by the Red Army against Japan completed the encirclement that brought Japan to its knees.'4 This is understandable: in a continental war, which was the nature of World War II, the outcome of the armed struggle was decided on Only decisive actions against large groupings of ground forces, the destruction of enemy forces and means,
could force the enemy to retreat, liberate the territories he had captured and force him to capitulate .

Nevertheless, in many historical works abroad (and in recent years in Russia) it is argued that it was the bombing of Hiroshima that caused the start of the Soviet offensive on August 9, and not on the 15th, as was said in Potsdam. But the documents say otherwise. They indicate that the troops of the Red Army, concentrated in the Far East to defeat the Kwantung Army of the Japanese, received orders to be ready for the offensive on July 25th. On August 3, immediately after returning from Berlin to Moscow, Stalin received a report from the commander-in-chief of the Soviet troops in the Far East, Marshal A. M. Vasilevsky. Vasilevsky reported that the troops were ready to launch the offensive from the morning of August 5, but he himself considers it more suitable to start the operation on August 9-10, when the most favorable weather is expected in Transbaikalia, where the forces of the Transbaikal Front, located in the direction of the main attack, are deployed. In Primorye, the rains are expected to stop by this time, and this will allow aviation to operate. Vasilevsky's proposal was approved by Stalin. The directive for the offensive was signed by the marshal on August 7 at 4:30 p.m., that is, even before the atomic bombing of Hiroshima became known from
Truman's speech .

Does this mean that the USSR played a decisive role in the defeat of Japan, as Soviet historiography has been writing about for many years? No, it doesn't. After the capitulation of Germany and the deprivation of Japan of all sources of raw materials, her defeat was inevitable. But without the USSR, taking into account the Japanese national stamina and fanaticism, the US armed forces would have to spend a lot of time (it was believed that at least a year) and suffer great

losses (up to 1-1.5 million people) to achieve complete victory. The entry of the USSR into the war greatly
accelerated the defeat of Japan, brought the end of World War II closer, reduced the destruction and the number of victims. Yes, the atomic bombings destroyed two cities, killed more than 200 thousand

lives, but the usual bombing of Japanese cities brought huge casualties (for example, on March 9, 100 thousand inhabitants were destroyed in Tokyo by conventional bombs), but all this could not break the will of the Japanese to resist. The atomic bomb could not destroy the huge Kwantung Army, ready to fanatically fight to the end on the mainland.

Nevertheless, the atomic bomb was a qualitatively new munition, marked the emergence of weapons of mass destruction, which fully compensated for the shortcomings of conventional aerial bombs with their low accuracy of hitting the target and low destructive power. The enormous power of the new weapons and, most importantly, their monopoly possession gave rise to the illusion in the US ruling circles that in the post-war period they would be able to dictate their will to the peoples of the whole world, threatening them with nuclear war. These weapons were already considered by them as a means by which they could ensure US hegemony throughout the world, and above all in relation to the USSR, even if it was a recent ally in the fight against fascism. It is widely known that Truman's first reaction to the successful test of the atomic bomb was to say, "Now I have a club against these guys." Clearly, he meant the Soviet Union. His confidence that the US nuclear monopoly would last was then unshakable. This episode is typical. In 1946, in a conversation with R. Oppenheimer, Truman asked him: "When will the Russians be able to build a bomb?" "I don't know," replied the scientist. "I know," the president said. "When?" was the question. "Never," Truman replied.

1. "Blitzkrieg" air-atomic

"Atomic explosions over Hiroshima And Nagasaki, wrote the general
M. Taylor, — served as clear evidence of the decisive
importance of strategic bombing. Atom

the new bomb strengthened air power with a new weapon of immense destructive power reaffirmed faith the air force has the ultimate weapon that will allow the United States V That, that our
to impose on the world a kind of "Pax

Americana " ("American world")" [6].

On December 19, 1945, US President H. Truman officially declared in an address to Congress: "Whether we want it or not, we must recognize that the victory we have won placed on the American people the burden of responsibility for the further leadership of the world" [7].

The main carrier of the most powerful long-range bombs at that time was strategic aviation (bombers B-17 and B-29), but, as the experience of the war showed, it was vulnerable to air defense systems, and as these weapons were improved, its vulnerability increased. In addition, it did not provide surprise, as it was detected by the enemy long before approaching the object of impact. And although strategic aviation was for a long time the main carrier of atomic and then hydrogen bombs, the question of replacing it with more reliable, accurate, fast and economical means of air attack was on the agenda in US political circles and armed forces already at the end of the war. In this regard, German missiles, especially ballistic missiles, for their irresistibility at that time, seemed to American strategists a very promising weapon. It is no coincidence that the American military, who were present at the Nuremberg trials of the main German war criminals, listened with great attention to the last word of the defendant Albert Speer, the former minister of armaments of Nazi Germany. In particular, he said: “Military equipment in 5-10 years will make it possible to bombard one continent from another with missiles with absolute hit accuracy. can destroy millions of people in New York within a few seconds, achieving the goal of nevi

dimo, without the possibility of knowing about it in advance, faster than sound, night and day "8. So,

militaristic thinking by the end of the war came close to the idea of \u200b\u200bcombining such a destructive weapon as the newly appeared atomic bomb with such a means of delivering it to the target , as a strategic bomber or missile. The latter to a greater extent ensured the inevitability of a strike, but was still very, very imperfect. The main attention was paid to strategic aviation. At the same time, views on the combat use of strategic bombers in the new conditions developed.

At the heart of them, as in years of the Second World War, lay the main provisions of the so-called "Douai doctrine. " Back in the 20s, the Italian General J. Douai, the creator of the theory of "air warfare", believed that the Air Force alone by its actions were capable of independently deciding the outcome of the war. wars" he reduced to gaining air supremacy, delivering surprise bombing strikes on the most important administrative, political and economic centers,

military facilities, areas of mobilization of troops. This theory assigned the main role in a future war to bomber aircraft, which had been rapidly developing since the late 1920s . The theorists of the "air war" also considered one of the decisive factors in achieving victory to be the suppression of the morale of the civilian population behind enemy lines by air strikes.

air. Douai wrote: "... the outcome of future wars may be the result of blows inflicted on the spirit of the population"10. He believed that "the coming war will be waged mainly against the unarmed population of cities and against large industrial centers." The memorandum of an active supporter of the "air war" of the Chief of Staff of the British Air Force, Air Marshal Trenchard, presented to the British government* on May 2, 1928, stated that the moral effect of strategic bombing was higher than the material one. The population of the enemy country will not endure massive air raids and can force its government to go to capital

11. Thus, the bombing of cities and the country's infrastructure was considered the main method of hostilities, and in strategic aviation they saw some kind of "absolute" force. The categories of "absolute" weapons were also thought by many

military men in the United States. Already during the Second World War, the ruling circles of the leading Western maritime powers increasingly relied on strategic aviation as a "weapon of victory." (By the way, these ideas are still alive today. For example, in the 1999 Yugoslav conflict, the NATO aircraft that bombed Serbia, armed with "high-precision" missiles and bombs, was presented to the world as a "weapon of democracy".) City bombing was widely used in World War II. After the defeat of France in the summer of 1940, England found itself essentially one on one with

Nazi Germany, which had occupied almost all of Western Europe. Then the air "battle for England" unfolded. Under this name, the air attack of the fascist German Air Force on Great Britain and its reflection by the British armed forces in August 1940 - May 1941 went down in history. The goal of the Nazi leadership in this offensive was to undermine the military and economic potential of their only enemy in Western Europe at that time, to terrorize the population, disrupt the government of the country and ultimately withdraw from the war. The rulers of the Third Reich believed that aerial bombardment, combined with a naval blockade and submarine warfare, could force Britain to capitulate and at the same time create favorable conditions for an invasion of England from the sea, if necessary. Göring was an ardent supporter of this idea, who assured Hitler that the Luftwaffe would "bomb England out of the war." Berlin hoped to demoralize the population, undermine the will of the people to resist and thereby force the country to capitulate. 105

However, although London and other cities (Coventry, Birmingham) suffered great destruction and many casualties, the Nazis did not achieve their goal: the English

the people courageously continued the struggle. Goering's plan to "bomb England out of the war" failed.

But the idea of an "air war" as a decisive means of achieving victory was hatched not only by German fascism. In the British Isles, as the anti-Hitler coalition grew stronger, a plan was also brewing to strike Germany from the air with such force as to cause irreparable damage to her. British aviation launched an air attack on German cities on September 24, 1940, when 84 bombers launched an unsuccessful raid on Berlin. In 1941-1942, the combat effectiveness of British bomber aircraft was extremely low. On average, less than 60 aircraft

participated in one raid. Only in the air operations carried out in 1942 in the major cities of Germany (Essen, Lübeck, Kiel, Cologne), 200-230 aircraft participated. As a result of these bombings, the civilian population suffered significant losses, many residential areas were destroyed, but no damage was caused to military-industrial facilities. This is evidenced by the growth in the production of the most important types of weapons in Germany in 1941-1942. So, if in 1940 the German industry produced 2,200 tanks and armored cars, 6,200 combat aircraft, 5,000 artillery pieces (caliber 75 mm or more), then in 1942 it produced 9,200 tanks and armored cars, 11,100 combat aircraft, 12,000 artillery pieces. . So the British aerial bombardment in those years did not affect the productivity of the German war industry.

The well-known historian R. Jackson writes: "The strategic offensive of the (British) bomber command against Germany during the first three years of the war ended in complete failure" 12 . However, intensify military operations (landing in Africa, prepare

When Anglo-American troops started

for the landing on Sicily), a plan was born for a joint air offensive against the Third Reich. At a conference in Casablanca (January 1943), a plan was developed for a joint air offensive from June 1943 to the spring of 1944 under the code name "Pointblank". He aimed by massive bombing to achieve "the progressive destruction and disorganization of the military, industrial and economic power of Germany and the undermining of the morale of her people to such an extent that Germany's ability to resist was weakened to a fatal level."

The calculation was that the massive strikes of the strategic aviation of the United States and England (the US bombers operated during the day, and the British at night) would so undermine the military and economic potential of the Reich and demoralize its population that an invasion of France would not be needed, since the bombing of German cities "will soon force Germany get on your knees."

Yes, Anglo-American aviation then won strategic air supremacy on the Western Front, to a large extent disrupted the enemy's communications and command and control system in France, and created favorable conditions for the landing of allied troops in Normandy. This was a worthy contribution of strategic bombing to the course of the war.

However, there was something else. Back in 1942, Air Marshal Arthur Harris, commander of the British Bomber Command, said: “Maybe someday we will be able to direct every bomb to the target with scientific accuracy. But until we achieve this (the experience of Yugoslavia in 1999 speaks of what they have not achieved even today. - to drop streams of bombs, to level the houses of Schicklgruber (Hitler. - and demoralize his workers. "Thus, the principle of hostages triumphed: A. O.), we have to civilians paid for the crimes of the Nazis. The scale of the air attack was impressive at first glance : strategic aviation armada A. O.)

During the night, in 1942, the large city of Cologne was destroyed, in a raid on which on the night of May 30-31, more than 1,000 aircraft participated. The order read: "Turn the medieval center of Cologne into a sea of fire." Harris demanded of Air Marshal Portal's chief of staff: "I hope you understand this: the target of the offensive is residential areas, and not, for example, docks or factories." After Cologne were Essen (June 1), Bremen (June 25) and other German cities. The raids of 1943 became "1000 bomber" raids. From June 24, 1943, Hamburg was bombed for six days: 100 thousand citizens were killed and wounded, 300 thousand buildings were destroyed. The apogee was the bombing of Dresden in February 1945. The city, filled with refugees, without military installations, was reduced to ruins within two days. 35 thousand people died.

The same thing happened on the other side of the planet. American B-29s bombed Japanese cities. By August 1945, 63 Japanese cities had been devastated by bombardment, including Tokyo, which was destroyed on March 9 of that year. And, finally, Hiroshima and Nagasaki, on the one hand, completed the "air offensive" of the allies, on the other hand, opened a new era in the use of strategic aviation - "air-atomic warfare." Theorists and strategists of the "second wind" of Douai's doctrine also appeared. The names of G. Arnold, W. Mitchell, A. Seversky, K. Spaats, K. Lemay flashed on the pages of the military press. Who

were these people? How did they develop the concept of a strategic air-atomic blitzkrieg? Henry Arnold (1886-1950) The first General of the Army in the history of the US Air Force during the Second World War was the commander of the US Army Air Force (ground forces). Under his leadership, in 1946, a strategic aviation formation was created as part of the Air Force, which included heavy and
medium bombers, escort fighters, and

subsequent years and strategic missile units. The following year, 1947, he substantiated the need and achieved that

that the Air Force was withdrawn from the US Army and became a separate branch of the armed forces. His book "Global Mission" (1949) on the history of American aviation became the cornerstone of the concept of the use of the Air Force in nuclear war. The name of American General William Mitchell (1879-1936) went down in history

as a major theorist of "air warfare". At the end of the First World War, he commanded a Franco-American Air Force formation with 1,500 aircraft. In 1919 he was appointed assistant chief of staff of the US Air Force. He believed that the use of military aviation as an offensive type of weapon is effective only "on the scale of the entire globe." It was from this position of Mitchell that the military doctrine of the United States proceeded in the first years of the postwar period. Its basic formula is: "Just as the ship of the line was the weapon of the British world, so the aircraft will be the weapon of the American world." The aircraft meant the strategic aviation of the United States, which in the American military doctrine was assigned the role of the main strike force. The main postulates of the US "air doctrine" were formulated by Alexander Seversky. This American of Russian origin deserves to be told in more detail about him. Alexander Nikolaevich Prokofiev. Born into a family of hereditary nobles in St. Petersburg on June 5, 1894. Seversky is a pseudonym inherited from his father, who sang under this name in the capital's operetta theater, being both its owner and director.

Alexander graduated from the Naval Cadet Corps, dreamed of becoming a naval pilot. He was acquainted with the famous aircraft designer Igor Sikorsky. He studied at the famous Kachinskaya (near Sevastopol) aviation school, but was expelled for insolence to

his superiors. I had to study at other schools. In the Baltic, he received a naval diploma

pilot.

He served on the island of Ezel, at the entrance to the Gulf of Riga, but soon got into a disaster, his right leg was amputated. He walked on crutches, mastered the prosthesis. Thanks to the will and

love of life began to play golf, swim, dance, ride
on skates.

Pilot friends took Seversky on test flights, sometimes they gave him the helm. But he was resolutely not allowed to fly. There has never been such a case all over the world: a one-legged pilot. Attempts to enter military aviation did not bring success. However, he periodically flew and as a master of aerobatics became more and more famous. He was accepted by Nicholas II and allowed to serve in military aviation. So, A. Seversky became

the world's first legless pilot. He bravely fought in the skies of the First World War, was awarded many orders, honorary weapons - his fame grew. After the October Revolution, under the mandate of Lenin, he was

sent as an assistant to the naval attache of the Russian Embassy in the United States. However, the embassy soon closed. Seversky remained in America. He became known in aviation circles, told the Americans about his inventions and ideas, in particular about aerial refueling, about optical sights during bombing - in general, about everything that did not find application in Russia. He was offered a position as a consulting engineer in the military department, and a year later he founded his own company, Seversky Air Corporation. Bomb sight Seversky adopted. He was given the rank of Major in the Air Force. In 1931, Seversky at his company, called the Seversky Aircraft Corporation, gathered Russian emigrants and developed with them a project for a light amphibious aircraft. He himself was a designer, and a technologist, and the president of a new company,

and test pilot.

For the P-35 fighter, the American army paid the company one and a half million dollars. For the first time, large-scale production of modernized Seversky P-47 aircraft was organized. During the Second World War, 196 of his P-47 Thunderbolt fighters were sent under Lend-Lease to the USSR. By the end of the war, he becomes a military consultant to the US government. In 1945 visiting

et Hiroshima and Nagasaki to assess the atomic bombings. In 1946, as a personal representative of the Secretary of State, he was present at nuclear weapons tests on Bikini Atoll. In the same year, President G. Truman personally awards Seversky with the highest US award for civilians - the Medal of Merit.

Even during the war, he took up the development of the concept of combat use of military aviation. His main thesis was the position that the success of the use of atomic weapons depends primarily on the reliability and high combat performance of the means of delivering atomic bombs to the target. He believed that the new technology - intercontinental aviation (and in the future - missiles), armed with nuclear weapons - makes all other traditional branches of the armed forces obsolete. Thus, he became one of the founders of the US air-nuclear strategy. He said that air power made it possible to conduct a war on the terms of the United States, while a land war on the terms of the USSR13. A. N. Seversky died in 1974. But if Mitchell and Seversky theoretically substantiated the concepts of "aviation doctrine", then such generals as K. Spaats and K. Limay put it into practice. Carl Spaats, who commanded the US Air Force in Europe during the war years, was a representative of a new
generation of American military leaders,

who firmly believed in the superiority of US military equipment, professed "technological fanaticism" and the principle of "cheap war". Massive carpet bombing of the enemy's largest industrial centers - such as had reduced Dresden, Leipzig and Tokyo to ruins - they saw as the first condition for achieving complete superiority in modern warfare. The appearance of the atomic bomb made the doctrine of "victory through air supremacy" completely irrefutable in their eyes. Spaatz wrote in 1946: "The outcome of the next war will in all likelihood be decided by the use of some air power before ground forces are in

able to come into contact with the enemy in major battles "14. The atomic bomb put strategic bomber aviation as a branch of service in a very special position, and the creators of this branch of service - Generals Arnold, Spaats, Lemay - were determined to use all its capabilities to establish this point of view (which even during the war years had many opponents) at all levels.General Curtis Lemay (1906-1974) in 1943-1944 commanded the 305th Air Division operating in Europe, developed the tactics of aimed bombing (as opposed to "carpet bombing"). bombing") and successfully used the latest Nord bombsight at that time. In 1945, he was the commander of the 20th Air Army in the Pacific theater of operations. Under his leadership, the new B-29 heavy bombers that attacked Japan were mastered. And here he is developed a tactic for bombing Japanese cities, the essence of which was to drop incendiary bombs on the outskirts of cities using the wooden buildings prevailing in the cities. Then the victim city found itself in a fiery ring, and high-explosive bombs were struck in the center. This method was widely used and led to the mass extermination of the inhabitants of the cities of Japan. Suffice it to say that only in one raid on Tokyo on March 9, 1945, 267 thousand houses were burned, about 100 thousand people died (more than during the atomic bombing of Nagasaki). From 1947, initially distrustful of the atomic bomb, Lemay became an ardent supporter of the air-atomic strategy, and in 1948 he headed the US Strategic Air Command (SAC). In subsequent years, three air armies (2nd, 8th and 15th) were formed in its composition. A huge fleet of heavy bombers was created. In the early post-war years, it was based on the B-29 (486 aircraft), since 1948 a modernized version of this B-50 bomber (224 aircraft) and the B-36 turboprop heavy bomber (338 aircraft) appeared. But everything

it was later, at the end of the 1940s, when the "cold war" had already gained momentum. So, for example, in 1948 in co-. there were more than 1000 bombers in the SAC, some of which could

carry atomic bombs.

True, there were not enough bombs all the time (in the 40s). In 1946 there were only 9 of them, in July 1947 - 13, in 1948 - 5015. Then the production of atomic weapons accelerated, and in 1949 there were already 250 atomic bombs in the USA16 .

At the same time, they were improved in the study of efficiency during tests. Typical is the test of the atomic bomb on Bikini Atoll on July 1, 1946. It was decided to test the effect of an atomic explosion on warships. The target was the American battleship Nevada, which survived the Japanese raid on Pearl Harbor in December 1941, and a number of American and captured Japanese ships. Foreign experts were invited to the test, including those from the Soviet Union (M. G. Meshcheryakov, S. P. Aleksandrov, journalist A. M. Khokhlov). It was expected that the explosion would completely destroy all designated facilities and cause quiet horror in those present before the power of atomic weapons. However, the expected effect did not work out: even the main object on which the bomb was dropped - the battleship Nevada - remained afloat. The animals that were on the doomed ships, for the most part, remained alive. Here is what the leaders of the Soviet atomic project reported to the Kremlin based on the testimony of observers and other data:

The bomb exploded mid-air near the surface of the water very "1. the explosion of the atomic bomb in the air over the ships exactly near Nevada. At 2. showed extreme survivability, therefore the material results of the explosion to be negligible O.). expected here

By comparison With (in USA. - A. Universal 3. disappointment with the results of an atomic bomb explosion in the air over very densely placed ships is replaced here by hopes of obtaining the results of underwater explosions that destroy ships. from [eleven] .

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Apparently, information about the results of this test, along with the rate of production of atomic weapons known in the USSR, gave Stalin grounds for declaring in an interview with a Sunday Times correspondent that atomic bombs are designed to intimidate the faint of heart, but they cannot decide the fate of the war, since for this it is completely not enough atomic bombs."18 In addition, it was a response to the first threat to use an atomic bomb against the USSR, made by the American president. And here's the occasion.

During the Second World War, Soviet, British and American troops were in Iran. They were supposed to withdraw all troops from Iran six months after the end of the war, that is, by March 3, 1946. Each great power sought to secure its interests in Iran, to strengthen its influence, to have oil concessions

there. Soviet troops stood in Iranian Azerbaijan (Northern Iran) and Iranian Kurdistan: they guarded the border with Turkey. At that time, Stalin sought to surround the USSR with a belt

friendly states. In Iranian Azerbaijan and Kurdistan, under the auspices of the Soviet Union, autonomous (within Iran), pro-Soviet republics were created, which created local authorities and armed formations. The Soviet Union needed time to create a concession and strengthen these autonomous regimes.
Therefore, Moscow delayed the withdrawal of its troops from Iran. The Iranian government didn't like it. In addition, by the end of 1945, relations between the USSR and the Western powers worsened. Using the situation, Iran turned to the UN (and in January 1946 the 1st session of this organization was underway) with a complaint against the USSR, demanding the withdrawal of Soviet troops from the country. Moscow delayed the withdrawal, citing difficult winter conditions. At the same time, the grouping of Soviet troops in Iran was reinforced with mobile troops to ensure an organized withdrawal of Soviet troops in the spring of 1946. 114

For this purpose, in March 1946, the 1st Guards Mechanized Division was introduced there, in which the author of these lines then served. The introduction of new Soviet units further exacerbated the situation. And then President Truman demanded the immediate withdrawal of Soviet troops from Iran, threatening otherwise to use the atomic bomb. This is how Senator Henry Jackson, close to Truman, recalled this. During the Iranian crisis, he wrote, there was a little-known episode that the president told him about. As Truman said, in those days he invited the USSR ambassador to the United States, A. Gromyko, and demanded that the Soviet troops be withdrawn from Iran immediately (in 48 hours), threatening otherwise to use the atomic bomb. “We will not stop,” President G. Jackson quotes, “to drop it on you.”19 There are other versions of this episode (telephone conversation, communication through diplomatic channels). So it was or not - it's hard to say. But, in any case, our troops left Iran not in March, but in April-May, and only after the Iranian government agreed to the creation of a Soviet-Iranian mixed oil society and recognition of the democratic demands of Iranian Azerbaijan. (True, at the end of 1946 - mid-1947, the national liberation movement in Iranian Azerbaijan was brutally suppressed, and the Majlis refused to ratify the agreement on the Iranian-Soviet oil society.) Thus, the flaring up Cold War increasingly pushed the US leadership to increase its air atomic power: strategic aviation was multiplied and improved, stocks of atomic bombs were increased. There was a development of concepts for the combat use of aircraft carriers of atomic weapons and plans for air-atomic warfare. On September 19, 1945, the United States Joint Chiefs of Staff (JCNS)
issued a document "Fundamentals for the formulation of US military policy", in which, in

In particular, it was stated that the United States must maintain

to adopt "overwhelmingly powerful military forces in time of peace" that are able to make it "unreasonable for any major aggressive nation to start a big war against the will of the United States." Not "attack the US", but "against the will of the US". It was an application for the role of military hegemon. "Our government," the document continued, "...should exert pressure to quickly resolve the dispute by political means, while at the same time making all preparations in order to strike the first blow"20. Who is the first hit? The addressee was also indicated: the Soviet Union. As early as May 19, 1945, ten days after the fireworks in honor of the Victory thundered over Moscow, US Deputy Secretary of State Joseph Grew wrote: “If anything can be completely certain in this world, it is a future war between the USSR and the USA. "21. So, already in the first months after the general victory over Germany and Japan, the US military leadership began to prepare for war against its recent ally, with whom, at the same time, negotiations were underway on the organization of the post-war world and the creation of common international organizations - such as the UN, international tribunals and etc. In November 1945, a secret study of the Joint Chiefs of Staff was prepared, entitled "Russia's Strategic Vulnerability to Limited Air Attack." The authors of this document analyzed the possibilities of a preventive nuclear strike against the Soviet Union in the
event that "the Soviet Union either started aggression (in Europe or Asia), or there were clear signs that aggression against the United States was possible"22. How they imagined "the aggression of the USSR against the United States in conditions when the Soviet Union reduced its armed forces by 1948 from 11.3 million to 2.8 million people and had neither atomic weapons nor means of their delivery - one can only guess23 The Washington strategists themselves wrote that "at present the Soviet Union does not have the ability to inflict similar destruction on industrial

Nevertheless, it was recommended to launch a nuclear strike not only in the event of a clear threat of "Red aggression", but also in the event that the impression was created that the USSR would eventually acquire the potential either to attack or to repel our attack24 " At the same time, it was believed that the USSR did not pose any threat to the USA. But even the creation in the Soviet Union of means of protection against an atomic attack would be a sufficient reason for the USA to drop atomic bombs on our country. Thus, the military doctrine included, moreover, unconditionally, the concept of a first strike delivered preventively at the discretion of the United States. Here we should say a little about the concepts of preventive and preemptive strikes. The first is planned to be launched
against a country or group of countries whose capabilities (economic,

geopolitical, demographic, military-political, etc.) allow them in the foreseeable future to equal the capabilities of a country planning an aggressive war.

A preemptive (preemptive) strike is delivered against an aggressor country when its armed forces are already ready to attack this or that country. It is inflicted by the state on which the attack is planned. The goal is to disrupt the attack prepared by the aggressor country. In the first post-war years, the USSR simply did not have the means to carry out an attack on the United States. There were no intentions. But he had at his disposal the strongest land army in

the world, capable in a matter of days (in the event of US aggression) of capturing the countries that were US allies in Western Europe. Nevertheless, the monopoly on atomic weapons and their means of delivery turned the heads of Washington strategists and created the illusion of omnipotence. Based on the experience of the atomic bombings of Hiroshima and Nagasaki, the plan in the planned war was based on atomic bombs, the carriers

of which were thought to be strategically 117

some bombers. This was reflected in the construction of the armed forces. The air force as a whole, and especially strategic aviation, was increasingly moving forward to a leading position among other branches of the armed forces. In March 1946, the Strategic Air Command (SAC) was created, which included 279 aircraft, including 148 B-29s. In 1947, the Air Force became an independent branch of the US armed forces25 .

The practical preparation of an atomic attack on the USSR was entrusted to the military planning committee of the intelligence committee, subordinate to the OKNSh. The Intelligence Committee soon submitted a report to the JCS. "To select approximately twenty targets suitable for strategic atomic bombing in the USSR and in the territory controlled by it" - this is the task that was set in this report, presented by

the leadership of the Pentagon on November 3, 1945 . When

choosing targets, it was recommended to take into account the capabilities of new weapons, that is, to keep in mind the area of effective destruction of areas with a high concentration of materiel and manpower. Using atomic bombs against field troops and the transport network, according to the authors of the report, was irrational. Thus, the use of new weapons was based on the basic concepts of the Douai doctrine developed by Mitchell and Seversky: to destroy not the enemy's military force, his troops, but civilians, cities deep behind enemy lines. The decisions adopted by the Hague and Geneva Conventions (1907, 1929, 1949) were discarded.

"The twenty most advantageous targets for atomic bombs are the industrial ones of which stated in the report, many scientific institutions are concentrated, centers, research specialized industrial enterprises, the core of the state apparatus. This selection will ensure maximum use

possibilities of atomic weapons" [eleven].

A year later, in September 1946, in the highest government circles of the United States, the document "Amerie

Kansk policy towards the Soviet Union". It, in particular, said:

"We must point out to the Soviet government that we are only to repulse the war ... we have sufficient offensive power, the Soviet Union to quickly crush the USSR too vulnerable, his industry for natural resources are widely dispersed, but it is for atomic, bacteriological weapons vulnerable of bombers ... The war against the USSR will be "total in a much more distant" in terrible sense than any previous war, therefore, constant development should be carried out as defensive weapons" offensive, and [28].

SAC commander K. Lemay went even further. He painted a picture of a future war like this: "The United States has the ability to depopulate the vast surfaces of the Earth, leaving only insignificant traces of human activity" 29 . Total war also required "total" coverage of the allies. The Pentagon was especially concerned that, due to the small number of atomic bombs and their carriers,

atomic air strikes, although they would significantly weaken the Soviet Union, would not in themselves lead to its defeat. After the atomic strikes, the achievement of final victory rested with the ground forces of the United States and its allies, as well as the forces of the fleet, which was supposed to supply the American army in the field and protect sea lanes. A Joint Chiefs of Staff document dated April 9, 1947, emphasized: "The areas subject to US defense commitments cover land and water roughly from Alaska to the Philippines and Australia in the Pacific Ocean and from Greenland to Brazil and Patagonia in the Atlantic Ocean. this space includes 40 percent of the land, but only 25 percent of the world's population. The Old World (Europe, Asia and Africa) covers 60 percent of the land.
However, 75 percent of the population lives there ... "30

Why, then, such vast expanses of the planet were needed to fulfill the "defensive obligations of the United States"? But the fact is that when planning an air-atomic war against the USSR, a number of problems arose before the military-political leadership of the United States, requiring urgent solutions. On December 14, 1945, the Joint Military Planning Committee issued Directive No. 432/D. "The only weapon that the United States can effectively use

for a decisive blow against the main centers of the USSR are atomic bombs delivered by long-range aircraft,"31 the directive said. It was supposed to be a plan

atomic attack on Soviet industrial centers with the use of about 200 atomic bombs. At that time, there were not so many bombs for the United States, but their production was accelerated in every possible way. Bomb carriers at that time could only be B-29 bombers. However, when based on the American continent, they did not have enough range to reach the objects planned on Soviet territory (the range of the B-29 was 6000 kilometers, while the distance from New York to Moscow was 7505 kilometers, from San Francisco to Khabarovsk - 7762 kilometers). Therefore, the authors of the directive proposed using air bases in the British Isles, Italy (Foggia), India (Agra), China (Chengdu), and the Japanese Islands (Okinawa) for the B-29. The first plan for the war against the USSR was developed by the OKNSh in June 1946 (codenamed "Pincher"). The contingency plan, as indicated, assumed that the Soviet-American war would take place in 1946
or 1947 with a preliminary threat period of at least three months. The appendix to the Pincher plan, drawn up by Air Force specialists, contained planned outlines for the nuclear bombardment and destruction of 20 Soviet cities with the most developed industry, which had already been noted by intelligence officers by that time32. The list of targets included

Moscow, Leningrad, Gorky, Kuibyshev, Sverdlovsk, Novosibirsk, Omsk, Saratov, Kazan, Baku, Tashkent, Chelyabinsk, Nizhny Tagil, Magnitogorsk, Perm, Tbilisi, Novokuznetsk, Grozny, Irkutsk, Yaroslavl. The plan was "experimental", reflecting the Chiefs of Staff's uncertainty was considered about the number of atomic bombs to be used to hit targets in the USSR. Doubts were aggravated by the fact that the planning of the "air-atomic" strategy was carried out without taking into account the actually available and produced in the country nuclear weapons and the combat capabilities of aviation. By the spring of 1947, according to the American Atomic Energy Commission, the United States had "not more than a dozen atomic bombs, none of which were ready for immediate use, but they were being produced at the rate of two per month"33 . In addition, during the work on the Pincher, planners from the KNSh suddenly discovered that many Soviet cities - the targets of strikes - were beyond the reach of the B-29 bombers, even when starting from

European countries. The plan noted that for the "air-atomic" offensive and the destruction of the oil-producing regions of Baku, it was necessary to use the territory of Turkey, and the inaccessibility of the deep regions of the USSR for American strategic aviation of that time required the creation of new types of bombers and air bases closer to the USSR.

Thus, the desire to inflict an atomic strike on the country of socialism as soon as possible, which overwhelmed Washington theorists of atomic war, ran into technical problems.

difficulties: there were clearly not enough bombs, and the B-29 bombers, the only carriers of atomic bombs, did not have sufficient range to hit targets deep in Soviet territory. In addition, only some of them were converted and suitable for carrying atomic bombs. There was another important "obstacle" that confused the developers of the atomic war plan. As American scientists Michio Kaku and Daniel Ak write

Selrod in the book "Winning a Nuclear War: The Pentagon's Secret War Plans", published in Boston in 1987, "even in the event of a successful nuclear attack on the USSR, the Red Army could launch a powerful counteroffensive and thereby confuse all the cards of supporters of nuclear war"34 . Therefore, the OKNSh continued to intensively develop more realistic plans for a nuclear attack on the USSR.

And so new, improved plans for an air-atomic attack on the socialist bloc began to appear every year: Broiler (1947), Grabber (1948), Fleetwood (1948) and others. In these plans, the main objects of strikes were specified (and multiplied); the length of strategic bomber routes was calculated; the number of atomic bombs was determined to achieve the desired bombing effect; the minimum necessary "unacceptable" damage that the enemy will suffer as a result of an atomic attack was taken into account; ways to overcome enemy air defenses were envisaged. In the course of this sophisticated planning for an unprecedented war, it became clear that an air-atomic attack could become effective only with air operations from forward base areas - the Ryukyu Islands (Japan), as well as from bases in England, Egypt and India, which had yet to be created. However, some objects in the USSR, even with this option, were beyond the reach of the B-29 and, even from

advanced bases, could no longer return to their airfields at the start. It was decided that part of the bombers on the return route would land or simulate a "forced landing" on the territory of friendly or neutral countries. In addition, there were disputes about which objects of impact should be considered paramount. And so, in 1948, they came to the conclusion that it was expedient to strike first of all at the "political, technical and scientific components of the Soviet state", and in particular "the key rulers

government, administrative,

24 cities in the USSR were chosen, on which it was planned to inflict 34 atomic strikes, and the total need for defeating the USSR was estimated at 400 atomic bombs35. However, this plan was illusory, since the monthly production of atomic weapons in the United States in 1947-1948 there were only four bombs.

At the beginning of 1948, the Air Force command, which by that time already had 31 bomber carriers of atomic weapons, planned to increase the number of carrier aircraft to 120 units by November 1949. Given this rate of new B-36 heavy bombers entering service, the Atomic Energy Commission decides to increase the number of atomic bomb assembly teams from three to seven .

Meanwhile, the goals of an atomic attack on the USSR are becoming more and more concrete in the circles of the top American military-political leadership. On August 18, 1948, the top secret directive of the National Security Council No. 20/1 stated: “Our main goals in relation to Russia, in essence, boil down to just two: a) to minimize the power and influence of Moscow ... b) to introduce fundamental changes in the theory and practice of foreign policy followed by the government in power in Russia". First of all, it was about weakening the Soviet Union politically, militarily and psychologically in comparison with external forces that were beyond its control "37. Here it is necessary to say about one more American statesman and military figure of that time - the first US Secretary of Defense James Forrestal It is known that President Truman signed the National Security Act on June 26, 1947. This act introduced the position of the US Secretary of Defense, who now alone personified the highest military authority in the country, whereas before this law there were two ministers: military and military -marine. They acted independently of each other and reported to the president. Now the Minister of Defense (before that he was the Minister of the Navy) with

concentrated in his hands the leadership of all types of armed forces: the army, the air force (recently separated into an independent branch of the armed forces) and the navy. James Forrestall was an ardent supporter of the war

against the CCCP. He was literally obsessed with the idea that the Soviet Union was about to attack Western democracies. It was under him that a foreign policy course of aggression was formed, a preventive nuclear strike on the USSR and a constant buildup of forces to ensure American hegemony in the world. He led a key meeting of the heads of law enforcement agencies in the town of Key West (March 11-14, 1948), where fundamentally important decisions were made. They boiled down, in fact, to one thing: to entrust the fulfillment of strategic tasks to the Air Force. The Navy also gets the right to use atomic bombs - from aircraft carriers. To increase the combat capabilities of the fleet in this area, build an aircraft carrier with a displacement of 80,000 tons. But the main thing is to give (temporarily!) control over atomic weapons to the command of the air force. This is how this American "hawk" put his ideas into practice. But I must say, his life ended tragically. Leaving

resigning as Secretary of Defense in 1949, he committed suicide two months later due to a mental disorder. They say he jumped out of the window shouting: "Tanks! Soviet tanks!"... Whatever the personal preferences of certain

American politicians and military leaders, the US war machine continued to gain momentum. The Pentagon was developing more and more new plans for a future nuclear war. The air-atomic offensive was planned to begin as early as possible, in any case, no later than two weeks after the start of the war. Since atomic strikes against the USSR were envisaged in the very first days of the war, the plan raised the question that the Air Force should have atomic bombs at its disposal in advance38. But after all, these bombs still had to be delivered to the object

there, a strike far deep in the territory of the USSR, and for this it was necessary to have enough advanced bases advanced closer to the borders of the Soviet Union. Military bases required well-equipped airfields with sufficiently long paved runways, modern navigation systems, fuel and ammunition depots, repair shops, etc. There were already large air bases in Asia and Africa, but they needed to be urgently upgraded. In addition, it was necessary to have permission from a number of governments. The Pentagon, however, was in a hurry. Therefore, for advanced basing, it was decided to use, first of all, the already existing quite modern air bases in the territories of the European allies. In this regard, the question arose of transferring part of the strategic bombers and atomic munitions to the British Isles, from where they could be launched into the central regions of the Soviet Union. The UK

government has long sought to partner with the US in global hegemony. Back in March 1946, Winston Churchill, in his infamous Fulton speech, called for the continuation of "close ties between our military, which should lead to a joint study of potential dangers ... and

ensuring mutual security through the joint use of all naval and air bases "39. And they began to act in this direction even earlier. Already two weeks after the end of hostilities in Europe, Field Marshal Alan Brook, Chief of the Imperial General Staff, began to prepare a memorandum on military measures "directed against Russia." In the first half of 1946, the British Chiefs of Staff drew up plans for a war against the Soviet Union with the use of atomic and bacteriological weapons. According to the then calculations of British military experts, bomber aircraft, operating from the British Isles, could strike at 58 Soviet cities with a population of 100 thousand people each,

located at a distance 125

1,500 miles (1,700 kilometers) from England. With an increase in flight range to 1850 miles (about 3700 kilometers), aviation could hit 21 more cities in the USSR. And now, when the atomic bomb has become the main argument in the political and military

strategy of Washington and London in relation to the Soviet Union, the British government has expressed its full readiness to provide its bases for American atomic bombers. All that was needed was a suggestion. They became the so-called "Berlin Crisis" in the summer of 1948. In June of this year, in the western occupation zones of Germany, there was a monetary reform extended to the western sectors of Berlin. The economic split of Germany was carried out, vigorous activity was launched against the pro-Soviet order in the eastern part of the country. The USSR, in agreement

with the authorities of East Germany, took a number of retaliatory measures. Its own monetary reform was carried out and separate communication between Berlin and the western zones was temporarily stopped. This served as a pretext for aggravating the situation in Europe. Since the Soviet Union closed the borders with East Germany and West Berlin and blocked all railways and roads, the Western powers established an air bridge to West Berlin and at the same time transferred to the American occupation zone of Germany, and from there to the British Isles, the B-29 squadron, carriers of atomic bombs. In July, there were already 60 bombers of this type at British air bases. Threats about the use of the atomic bomb sounded again. By autumn, the situation around Berlin had practically returned to normal, but the number of B-29s with atomic bombs in England reached 90 units. How the strategic operations of the air force against the vital centers of Russia were conceived was openly discussed in the American press of that time. The main provisions of the "war against Russia" plan were outlined by the magazine "Newsweek" in the article "White Star vs. Red Star".

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bases “American strategy extends Russian spheres from creation around of influence with subsequent strikes,” Newsweek wrote. US air, do not intend to fight on the with made a similar mistake land of Napoleon by Russia, which had colossal human reserves. American strategists prefer to surround Russia with a ring of air forces.

40 forces".

Recalling this, British Prime Minister W. Churchill said on December 6, 1951 in the House of Commons that in 1948 the foundation was laid for the creation of "a huge and ever-expanding

American air base in East Anglia for the use of atomic weapons against Soviet Russia .

As the stocks of atomic bombs grew, the number of targets on the territory of the USSR increased. In 1948, it was envisaged to destroy already 60 Soviet cities with the help of a simultaneous massive strike of 133 atomic bombs. At the same time, 8 bombs were assigned to Moscow alone, and 7 42 to Leningrad . If the war dragged on, then about 200 bombs were supposed to be used against the USSR, which would lead to the destruction of 40 percent of industry and the death of 7 million people.

So, the pictures of the future nuclear war against the USSR were not hidden from the public. Widely advertised, for example, was the October 27, 1951 issue of the American magazine Colliers. He colorfully painted the US nuclear war against the USSR. “The Soviet government,” Colliers wrote, “must change its views and policies. If this does not happen, then the day will surely come when this government will disappear from the face of the earth. According to the Colliers scenario, the war began on May 14, 1952. Taking off from airfields in England, France, Italy, Japan and Alaska,
squadrons of B-36 heavy bombers dropped atomic bombs on the most important military and industrial facilities of the Soviet Union. Daily over the Soviet territory dismantled

millions of leaflets were dropped from the air. Thousands of agents parachuted down to sabotage and destroy
communication systems.

On July 22, an atomic bomb was detonated over Moscow. The magazine published the "most probable" reportage from the bomber, with a drawing of a nuclear explosion not far from the Kremlin.

Such publications surprisingly coincided with the plans of the Pentagon specialists, who at that time were still strictly
secret. Their purpose was to accustom the American people and the public of the capitalist world to the idea of the inevitability of an atomic war, in which the United States would undoubtedly be victorious.

However, when drawing up plans for an immediate or close atomic war with the USSR, military experts of the Pentagon in the first 5-7 years after World War II considered the only possible long-term strategy to be based on the integrated use of all types of armed forces, and atomic strikes inflicted at the beginning of the war, was seen as facilitating the further use of "other means of allied military power"43. In order to tie down the actions of the Soviet troops, it was supposed to conduct operations with the forces of the army, primarily American troops in Germany and Western Europe, as well as the forces of the fleet. In 1949, a special committee headed by Lieutenant General X. Harmon developed for the President (reported January 23, 1950) a top-secret report on the possibilities

USA to defeat the Soviet Union. The report stated that if, with the help of the new B-36 heavy bombers, 200 atomic bombs could be dropped on objects in the USSR, then as a result of this strike 2.71 million people would die, 4 million would be injured, and "the life of 28 million people"44 . However, even under this condition, the United States still lacked the strength to destroy the Soviet Union or prevent the Red Army and its

Europe and Asia. On the basis of Harmon's report, the KNS informed the US leadership that a "decisive strike" was probably not possible before the mid-1950s. The Chiefs of Staff considered it necessary that the US military industry produce 400 atomic bombs by 1953, each of which would be equal in power to the bomb dropped on Nagasaki. But why "to Nagasaki" and not "to Hiroshima"? Yes, because a more effective plutonium bomb was dropped on Nagasaki, not a uranium bomb. The "hawks" believed that if 100 of these bombs were dropped on objects in the USSR, then the goal could be achieved ... Thus, the question of success in the war against the USSR rested, according to American strategists, in the creation of such carriers of atomic weapons that could penetrate
into deep regions of the Soviet Union and deliver simultaneously massive strikes against the industrial and administrative-political centers of the USSR. But the B-29, B-50 and B-36 strategic bombers in service with the United States could operate at a range of 8,000-10,000 kilometers, which allowed them to reach the central regions of the USSR, subject to departure from forward bases located along the perimeter of its territory. Such bases already existed in many neighboring countries of the Soviet Union, but their status was not sufficiently legitimate, and they were usually very expensive. Some international guarantees were required. Consequently, it was necessary to urgently create bases not only in Western Europe, where there were occupation zones and countries allied with the United States, but also in other regions of the world. This (along with other military-political factors) could only be achieved through the creation of anti-Soviet military-political blocs. The political leaders of the United States realized that, given the balance of power that had been created, even such a powerful state as the United States alone would not be able to suppress the emerging world system of socialism by force of arms. Allies were urgently needed, and those who could form the basis of the ground forces, and above all in Europe.

In 1949, the North Atlantic bloc (NATO) was created - a military-political alliance directed against the USSR and the socialist countries led by it. NATO united the strongest Western powers, whose influence extended almost to the entire globe. They had an extensive network of military bases. strategic concept

of this bloc was formulated in a statement by the Chairman of the US Chiefs of Staff O. Bradley on July 29, 1949, and then officially accepted into NATO. Speaking about the distribution of roles in the preparation of the war against the Soviet Union, Bradley, in particular, said:

"First, the US will be responsible for the strategic bombing. The United States has repeatedly emphasized that the first condition for joint defense is our ability to deliver atomic bombs.

Second, the United States will carry out the main naval operations, including the protection of sea lanes. Western Union other countries will themselves provide the defense of their ports and coast. Thirdly, we believe that the main core of cash on the ground forces will be supplied by Europe, which other nations will provide support through mobilization. Fourth, England, France and adjoining countries bombing anti-aircraft, of course, we will have to take short-range aircraft defense on ourself the lead role. We, our own overland and tactical aviation for naval forces, for defense USA. Fifth, other countries dependencies from their proximity or distance from potential area of conflict will place emphasis on the implementation of relevant specific assignments to prepare for"[45].

These ideas were also reflected in the new American plan for nuclear war against the USSR (codenamed "Dropshot"), which was approved by President Truman in 1949. The plan emphasized that 130

"The most serious threat to US national security is ... the very nature of the socialist order." In accordance with this, the main political goal of the war was no longer to limit the "power and influence of Moscow", as in previous plans, but to liquidate the Soviet socialist state, destroy the "roots of Bolshevism", restore capitalism and colonialism and establish American world domination with the help of NATO. . The main strategic goal was "in cooperation with our allies ... to destroy the Soviet will and ability to resist through a strategic offensive in Western Eurasia and a strategic defense in the Far East" 46 . The plan provided for starting a war against the USSR with massive strategic air strikes against the administrative, political and industrial centers of our country, as well as areas where troops were concentrated. It was planned at the first stage to drop 300 atomic and 200 thousand tons of conventional bombs on the Soviet Union within 30 days. The authors of the plan hoped in this way to break the will and

the ability of the Soviet people to resist and force the Soviet Union to capitulate. In the event that massive atomic bombings did not lead to a quick surrender of the USSR, it was supposed to continue bombing with atomic and conventional bombs. The subsequent stages included the invasion of the US ground forces and their allies in the USSR, the seizure of its territories and the countries of people's democracy using not only

atomic, but also other types of weapons of mass destruction: chemical, biological and radiological. On this account, the Dropshot plan contained an indication: "In this campaign, the emphasis is on the physical destruction of the enemy." In the future, it was planned to establish an occupation regime on the territory of the USSR, to divide the country into occupation zones with the deployment of American troops in key cities of the USSR, and

also in 131

a number of cities in Eastern Europe. After the defeat of the USSR and its allies in Europe, it was planned to capture the DPRK, the MPR, China and all of Southeast Asia47. Operations of psychological warfare aimed at undermining the morale of the population of the USSR were also envisaged. In order to verify the correctness of the OKNSh calculations, the United States instructed a group of top echelon military officers to check the chances of disabling nine strategic
regions at a command post exercise: Moscow-Leningrad, the Urals, objects on the Black Sea coast, the Caucasus, Arkhangelsk, Tashkent, Alma Ata, Baikal, Vladivostok. The results were disappointing: the probability of reaching the targets was 70 percent, the losses of the bombers participating in the air offensive exceeded 55 percent. 55 percent! In the whole of World War II, the heaviest losses (the strike of 97 bombers on Nuremberg on the night of March 31, 1944) did not exceed 20.6 percent of the aircraft participating in the raid. The exercise revealed a number of miscalculations turned out to be in the planning and provision of the first strike, due to which the air offensive against the USSR could not be carried out at lightning speed; atomic bombings of Moscow and Leningrad could only be carried out on the 9th day of the war. At the same time, calculations showed that, for example, the bases in the British Isles would be completely put out of action by the actions of the USSR Air Force using atomic weapons in a maximum of two months. It became clear that US strategic aviation, having inflicted significant damage on the cities of the USSR, could not continue combat operations in the first strike due to the insufficient number of aircraft, bases, support and maintenance systems. And the Soviet armies by this time, according to the calculations of the participants in the exercise, will already have reached the shores of the Atlantic and Indian oceans. It turned out that the plan of war against the USSR, developed by the Pentagon, led to the loss of Europe, the Middle and Far East in the first months of the war.

On April 11, 1950, the Chief of Operations of the US Air Force Headquarters, Major General S. Anderson, reported to the US Secretary of Aviation S. Symington that the US Air Force could not carry out the entire air offensive envisaged by the plan and provide the air defense of the US territory and Alaska with the available forces49 .

In addition, the success of the planned air attack depended on the survivability of forward bases, and they could easily be put out of action by the enemy.

Then the military-political leadership of the United States focused on more promising carriers of nuclear weapons - ballistic and cruise missiles. Long-range and medium-range missiles tempted Pentagon strategists with many of their advantages over aircraft. Ballistic missiles, having a huge (1600 m / s) speed, could hit objects deep behind enemy lines in a matter of minutes. They could operate regardless of the weather and time of day; The air defense of the country on which the strikes were made could not counteract them. Equipped with autonomous inertial control systems, all components of which were placed on board, the missiles were not affected by enemy interference. Cruise missiles, despite their approach in speed and flight altitude to the aircraft, were also promising weapons: their cost compared to the aircraft was much lower, their use did not depend on weather conditions; they were small in size, which made it difficult to detect them, especially when operating at low altitudes; could be launched from the ground, from a ship, from an aircraft, and due to these qualities, in mass use, they were difficult targets for enemy air defense. In addition, both types of missiles did not require a scarce and expensive flight crew (the training of one American pilot cost about 730 thousand dollars), and their mobile versions were less vulnerable. The plans provided for the creation in the near future of a very powerful arsenal, primarily between 133

continental and operational-tactical missiles along with strategic bombers. Immediately after the war in the United States and a number of other capitalist countries, work was widely developed on the creation of rocket weapons based on the experience of rocket building in Nazi Germany and the use of V-1 and V-2 rockets during the war years. Captured by American troops, these missiles formed the basis for the development of American missile weapons, and German specialists brought out of Germany under the guidance of the Americans were engaged in their improvement.

Work on the creation of rockets has been carried out in the United States since 1945. Initially, the center of work was the Redstone Arsenal (Alabama), which was run by the US Army. By the 1950s, up to 400 German and American specialists were already working in Redstone. They formed the core of the missile center, in which, on the basis of the V-2, it was created under the leadership of V. Brown

American ballistic missile "Redstone" with a range of up to 300 kilometers. Work was also underway on the Kapral missile with a range of 160 kilometers. However, these missiles could only be used to support ground forces and were completely unsuitable for strikes against targets in the depths of enemy countries, and even more so the USSR. Therefore, the Air Force independently engaged in the development of strategic missiles (range - over 5,000 kilometers) and medium-range missiles (1,000-1,500 kilometers). To manage work in the field of creating missile weapons, the US Air Force created the Main Directorate of Scientific Research and Development in

this area of military equipment. Between 1952 and 1957, the Air Force spent over $1,850 million on rocket weapons (the Army spent more than $1,260 million). In 1953, numerous scientific councils and technical committees dealing with rocket weapons were united in the Neumann Committee (named after the German rocket specialist J. von Neumann), which established centralized control over the
development of all US Air Force missile programs and received the status of consul 134

tative body under the Minister of the Air Force and the Minister of Defense. In 1954, the Ministry of the Air Force, the Department of Ballistic Missiles and the Directorate of Research and Development at the General Staff of the Air Force, the Von Neumann Committee and the Remofoldridge Engineering Corporation developed a joint Atlas intercontinental ballistic missile (ICBM), the contract for started in which was received by Convair. In 1955, the program of the ICBM "Titan" and the medium-range ballistic missile "Tor" (respectively - the companies "Martin Marietta" and "Douglas Aircraft") were launched.

Continued the development of missile weapons and the army (ground forces) of the United States. In 1954, after experimental launches of the V-2, ballistic missiles of the "ground-to-ground" class, tactical - "Kapral" - and operational-tactical - already mentioned "Redstone" - were already created and put into service at army research sites after experimental launches of the V-2. The first of them, with a range initially (1951) of 160 kilometers, and then (1953) of 240 kilometers, was developed by the US Army Ordnance Department, the second - under the leadership of W. Brown "Chrysler".

In parallel with work on ballistic missiles, models of cruise missiles were being developed on a broad front, which at that time still continued to be called aircraft projectiles.

However, the missiles of that time also had significant drawbacks: low accuracy of hitting targets. Therefore, until the beginning of the 60s, strategic aviation continued to be regarded in the Pentagon as the main strike force in the war against the USSR and its allies. But the growth of the combat capabilities of Soviet air defense, the dependence of strategic aviation on forward bases, where it could

to be struck by the enemy, the imperfection of the missile weapons that entered service - all these were significant factors that restrained the militant aspirations of the White House and the Pentagon in those years. It would seem that having a monopoly on the atom

New weapons, the presence of significant strategic aviation forces, and the formation of the NATO military-political bloc created favorable opportunities and gave rise to hopes for victory in the war against the USSR and its allied countries.

And yet, the fear of the growing military power of the Soviet Union, the lack of a complete picture of everything that happened behind the "Iron Curtain" of the socialist state in the field of armaments, the fear of coming to a great continental war, fraught with the death of most of humanity - all this had a decisive influence on sensible politicians

West, forced them to restrain the "hawks", eager to destroy "world communism". Washington and London were well aware

of the efforts that were being made in the USSR to increase the country's defense capability (although many details were not known), so balancing "on the brink of war" without crossing this line was considered the preferred policy.

2. "Tank March of the Soviets"

At a time when the Americans were reveling in their military might and preparing an "atomic blitzkrieg" against the USSR, the Soviet Union wasted no time. Although immediately after the end of the
war, the government of the USSR reduced the 12 million wartime army to 2.8 million people, the main striking forces that remained in the ranks were concentrated in the occupation zones of Germany, Austria and Hungary. With the restoration of the Soviet national economy, much attention was paid to the improvement of the armed forces. During the 7-8 post-war years, the armed forces were re-equipped with more advanced models of automatic weapons, artillery, engineering, radar equipment and other modern types of weapons and 136

technology. Particular attention was paid to the modernization of tanks and aviation. Complete motorization and mechanization of the Soviet Army was carried out.

Received further development and views on the use of mobile troops and aviation. The main type of military operations was considered to be a strategic offensive, carried out by the method of successively achieving intermediate strategic goals by forces of all branches of the armed forces.

This position of the Soviet military doctrine of that time, although it was not published, was well known in the West. It was also known that the main methods of conducting

in this doctrine, the encirclement and destruction of an enemy grouping was considered a strategic offensive operation.

Thus, in contrast to the views of Washington, where priority was given to the destruction of the economic potential (which, however, was accompanied by more civilian deaths than military losses), Soviet views on war were dominated by the idea of destroying the enemy's armed forces in the first place. This is what frightened the West (which is also confirmed by the experience of the Yugoslav war of 1999), because in the struggle of land armies the losses of personnel are more significant than in a naval or air war. America and England in the 2nd World War had irretrievable losses of 375-400 thousand people; The USSR lost 27 million people, including 11 million military personnel. This was remembered in the West. Despite terrible human losses, our people restored their almost two-thirds of their destroyed economy by the end of 1947. Such self-sacrifice not only for the sake of the family and one's own well-being, but also in the name of the state (very cruel to its citizens) was completely incomprehensible to the West and inspired anxiety. And the Soviet Union, as recently declassified documents testify, never had any plans to attack Western democracies. Counteroffensives - yes, but only as a response.

In 1946-1947, the USSR developed and approved the "Plan of Active Defense of the Territory of the Soviet Union". It defined the main tasks of the armed forces as follows: the repulse army, relying on fortified areas, must defeat the enemy in the border defense zone and prepare the conditions for the main groupings of troops concentrated on the western borders of the socialist camp to launch a counteroffensive. The Air Force and Air Defense, which are part of the repulse army, have the task of reliably covering the main forces from the air and being ready to repel a sudden attack by enemy aircraft. The troops of the reserve of the High Command are intended for crushing, using the forces of the army, rebuffing and striking at the main enemy forces, inflicting defeat on them and counteroffensive. The scale and depth of the counteroffensive were not indicated in the plan50 . The plan did not indicate, but Western strategists, knowing about the grouping concentrated on the western borders of the socialist camp, and about the striking capabilities of the military equipment of the USSR, as well as about the modest military potential of the

countries of Western Europe, not without reason believed that after the Americans unleashed an air-atomic war Soviet tank armadas will be off the English Channel in two weeks. Thus, Western Europe and the European NATO countries became hostages in the event of a war between the US and the USSR. The scenario of the "3rd World War", directly opposite to that which was published in the magazine "Colliers", more than once struck the imagination of the townsfolk.

through the Western media. The scheme was something like this:
the General Staff of the Soviet Armed Forces receives updated intelligence about the strengthening of the European NATO grouping and signs of increasing its combat readiness. There are different sources of information: reconnaissance aircraft, an intelligence network in Western Europe, defectors, etc. The armies of the Warsaw Pact states are put on full alert. Hundreds of military vehicles take off from airfields 138

nyh aircraft with winged infantry on board. The task of the airborne divisions and brigades is to capture strategic objects (headquarters, communications centers, airfields) and sabotage behind enemy lines. Soviet tank armies, destroying everything in their path, make a march straight to the English Channel. The daily rate of progress is up to 250 kilometers. The order is forward. Engineer troops build pontoon bridges across rivers. In the sky, the complete dominance of Soviet fighter aircraft. Bombers and attack aircraft, together with artillery, strike at the places of deployment of enemy manpower and equipment. Ground forces "cleanse" the occupied territories. Military political workers explain to the surviving local population the liberation mission of the Soviet Army.

Such "scenarios", in the absence of any argumentation, sometimes had some grounds. Thus, in the mid-1950s, Commander-in-Chief of the Ground Forces A. A. Grechko outlined a possible, in his opinion, variant of the Soviet counteroffensive in Europe and its further development: cross the Rhine on the move, take Paris on the 6th day and then move to the Atlantic ocean...51 In the West, such a development of events in the event of war was fully allowed, knowing the high combat capabilities of the Soviet troops, especially the groups stationed in the countries of Eastern Europe. The fear that atomic strikes by American aircraft on the USSR would lead to a Soviet ground invasion of Western Europe forced European politicians to restrain their overseas patron in every possible way in his militant aspirations. An example of this is the episode with the US threat to use an atomic bomb against communist China during the Korean War. Here is how it was. October 1950 US-South Korean troops are advancing north at a rapid pace. They are already

approaching the Chinese border, and on October 23 they take Pyongyang. And then a huge mass of Chinese troops (the so-called Chinese people's

tsy - CPV) rushed over the bridges across the Yalu River into North Korea on October 25. The war has entered a new phase. The Chinese offensive was long and heavy. The “volunteers” countered the dominance of the Americans in the air with trench and gallery fighting, when entire companies, battalions and regiments

burrowed into the ground that neither bombs nor napalm took them. In addition, since November 1950, the industrial facilities of Northern China, the bridges across the Yalu and the territories adjacent to the border began to cover the Soviet 64th Fighter Air Corps from the air, operating successfully in their zone. Under the blows of parts of the DPRK and the PRC, American troops began to retreat in the conditions of winter and the absence of a road network. Supply was broken, losses grew. On December 6, Kim Il Sung's troops captured Pyongyang, and at the end of the year they reached the 38th parallel. The commander-in-chief of the "UN troops" (as the opponents of the DPRK were called), General MacArthur, demanded from Washington permission to launch a war against the PRC, bombard targets in China from the air, and inflict atomic strikes on large cities. At first, President Truman seemed to share MacArthur's views. At a press conference on November 30, 1950, he announced the readiness of the United States to take "all necessary measures that the military situation will require." He was asked: "Do these measures include the use of the atomic bomb?" He replied, "That includes all the weapons we have." To the repeated question: "Does this mean that the possibility of using a bomb is being discussed?", the President replied that "its use is always actively

discussed"52 . This statement by Truman seriously alarmed the Western partners, especially London. The words of the President of the United States were interpreted as a hint at the possibility of a 3rd World War. A heated debate broke out in the English House of Commons. 100 Labor MPs protested against the use of the atomic bomb. Prime Minister K. Attlee urgently flew to Washington to meet with the President of the United States. He expected Truman to give

he was promised to consult with London on the issue of atomic strikes on China. However, the president agreed only to keep the British government informed about "the course of events that may lead to a change in the situation." The joint communiqué issued after the talks between Truman and Attlee (December 8) said: "The President hopes that the international situation will never require the use of the atomic bomb." But the main thing for him, of course, was the fear that the use of the atomic bomb could the response of the Soviet Union. Subsequently, G. Truman wrote in his memoirs:

“If we decided to spread the war we should have expected retribution. Beijing on China, That is ideologically so allies. If we would were to attack communist China, we would have And Moscow to expect Russian intervention. And V accordance With contracts were

Secretary of State J. Marshall was of the same opinion. When he was asked in Congress whether he would have authorized the atomic bombing of Manchuria if he had been sure that the USSR would not interfere in

conflict, he replied: "If there were no danger of the intervention of the USSR, then the bombardments you mentioned would begin without any delay"55. But the issue of the atomic bomb was also removed because during the battles in the winter and spring of 1951, the North Koreans recaptured Seoul and Inchon, and then, under the blows of the American-South Korean troops, were again pushed back to the 38th parallel. By the summer of that year, the front line was almost frozen, fluctuating around the 38th parallel. Opportunities arose for negotiations on a truce. But earlier, in November 1950, there was certainly a reason for the British Prime Minister's alarm. And not only because the USSR became an atomic power in 1949, but also because in the late 40s it already possessed atomic bomb carriers capable of hitting targets throughout the depths of Western Europe, as well as Alaska. It is no coincidence that General

Anderson, reporting to US Secretary of Defense Symington in April 1950, mentioned Alaska as an area vulnerable to Soviet aviation. Indeed, the Soviet Union,

having created an atomic bomb, sought to have such bombers that could hit important targets of a potential enemy, at least at its forward bases. We needed a means of delivering an atomic charge to the object of impact. Soviet aviation in the mid-40s had mainly tactical bombers designed to support ground forces in theaters of war. However, now there was a need for such aircraft that could carry the atomic bomb not only to the deep rear of the NATO countries, but also to the American continent. There were no such planes. The American establishment was kept in unleashing an air-atomic war against the USSR only by powerful Soviet tank armies stationed in the center of Europe.

In such an environment, the Soviet leadership was in a hurry to create a long-range bomber. It was decided to copy the American B-29 - four aircraft were interned in our Far East after their forced landings due to damage received during the bombing of Japan. In early June 1945, Tupolev and his first deputy Alexander Arkhangelsky were summoned to the Kremlin to see Stalin. According to

Arkhangelsky's memoirs, the Boss immediately went to the heart of the matter: "Comrade Tupolev, we have decided to copy the B-29 bomber; you will learn the details from Shakhurin." Tupolev, bewildered by such an unexpected turn of events, was despondently silent. Then Arkhangelsky, realizing that no objections would help, replied with feigned enthusiasm that "the task of the Party and the government will certainly be fulfilled." On June 6, the State Defense Committee issued a decision, according to which the Tupolev Design Bureau was instructed to organize the production of the "twin V-29 - B-4 ("four-engine bomber").

people's commissariats, departments, design bureaus, factories and other organizations were ordered scrupulously, according to the requirements of the Tupolev Design Bureau, to reproduce literally everything that the B-29 consisted of: materials, assemblies and devices. This, I must say, a historic decision ended with two points: Tupolev - in a year to complete the production of all the necessary technical documentation, and the director of the Kazan Aviation Plant Okulov - in a year to build the first series of 20 aircraft.

Military pilots flew three restored "superfortresses" to Moscow. Those were not possible carriers of atomic bombs, but ordinary serial aircraft. In the largest hangar at the Central Airfield, the first aircraft was completely dismantled, its parts were used to produce drawings, and the "stuffing" - instruments and equipment - was transferred to the Second specialized organization. was used to refine flight data and train the crews of future B-4s, and the third was kept as a duplicate in case second aircraft crashed. the airplane

It soon became clear that without a fundamental change in the technology of our aviation and metallurgical plants and other enterprises, it would not be possible to reproduce this aircraft. The vast majority of technical solutions, materials and instruments used by Boeing in the development of the B-29 were completely new for the domestic industry. In accordance with Stalin's personal instructions, not the slightest deviation in any detail from the American model was allowed. "Organizational conclusions" on negligent or obstinate chief designers and plant directors were tough: those of them who did not want to copy or only tried to prove that their own serial development was better than the American one were fired. Such was the dramatic nature of the situation, hidden from prying eyes: the designers were forced to "step on the throat of their own song" and copy someone else's, keeping the deadlines specified in the GKO decision, and they were extremely
short. Understandable and negative reaction

The decision of the leadership of the Ministry of Aviation Industry to instruct Tupolev to develop a new version of the B-4 - with a significantly elongated bomb bay. This would mean a complete reconfiguration of the aircraft, the creation of an essentially new design and would lead to a missed deadline. Thus, the mutual grinding of the two departments - nuclear and aviation - began rather painfully. Such a "frivolous" attitude of the nuclear scientists to the alteration of the carrier speaks of their misunderstanding at that time of the intricacies of aviation and the whole complexity of "connecting" the bomb and the carrier aircraft. Understanding came gradually, in the process of joint work.

The hardest work fell on Tupolev and his closest assistants (Markov, Kerber, Cheremukhin and others): coordinating the activities of many industries, and most importantly, "pulling" them into modern technical and

technological level. The number of units and blocks that were transferred to Tupolev's "subcontractors" for manufacturing was measured in thousands. On August 3, 1947, at the traditional air

parade in Tushino, a trio of B-4 aircraft was shown to the public for the first time. At the cost of incredible efforts, the Soviet Union managed in two years to master the most complex technologies and give its military aviation a first-class machine. When the aircraft was put into service, it was designated as TU-4. Dementiev (then a deputy, and since 1953 - the Minister of the Aviation Industry) said that Stalin himself gave this name, correcting it in the act on state tests "B" on "TU" with a blue pencil.

In total, about 850 cars were produced from 1948 to 1952. In a historical context, it is clear that the creation and serial production of the .TU-4 aircraft prepared fertile ground for a true revolution in aviation - the appearance of the first generation of Soviet jet aircraft, first military and then passenger. The complexity of all this work was that the B-29 was crammed with a mass of sensors, a huge
number of devices, remote tracking systems 144

firing, etc. This was not yet the case on Soviet aircraft. In order to make an exact copy of the B-29, it was necessary to almost re-create a new aviation industry, to study American technology. And all this was done, and in the shortest possible time.

The TU-4 bomber could operate at a distance of up to 6,000 kilometers, which meant that TU-4 aircraft, taking off from bases in our country and Eastern Europe, could reach targets in Western Europe, the Middle East and Japan. In order to increase the range of their flight, already at the beginning of the mass production of the TU-4, it was decided to equip the aircraft with an air refueling system.

At first, refueling specialists acted independently, at their own peril and risk. In July 1949, performing automatic refueling for the first time, they filmed the entire process. Tupolev, having learned about this, wanted to get acquainted with such a promising work. Subsequently, test pilot I. Shelest recalled: “Screens of a secret movie went on the

screen. It was seen how a cable was thrown between the wings of two Tu-4 aircraft. Tupolev was silent at first. When the fuel hose began to crawl out of the wing of Amet-Khan (the pilot of another car. - The plane began to crawl out like an anaconda and rushed to the wing of my car, then Tupolev suddenly behaved like at a hockey match - he fidgeted in his chair and shouted out in falsetto: "Well done!" ". 56 In 1952, after passing state tests, the "wing-to-wing" refueling system was adopted first on the TU-4, and then on the new Tu-16 jet bombers.However, even with
refueling, these aircraft could not

to act on targets in the United States: there was enough fuel. Therefore, already only there. in 1948, the Tupolev Design Bureau was given the task of building a super-heavy four-engine bomber with a flight range sufficient to return to its airfields. 145

In addition, the TU-4 had a major drawback, which in those years it was time to eliminate. It was a piston (not jet) aircraft, with a relatively low speed. This means that he was an easily vulnerable target for jet fighters already in service with a number of countries, which had greater speed and flight altitude. The vulnerability of piston aviation, in particular B-29, was clearly shown by the Korean War, during which Soviet MIG-15 jet fighters successfully shot down B-29s.

Therefore, in order to be at the level of the century, it was necessary to have modern jet aircraft. And, of course, in the Soviet Union, advanced aviation design thought was aimed at solving this problem. The design bureaus of A. S. Yakovlev, A. I. Mikoyan, S. A. Lavochkin, A. N. Tupolev, S. V. Ilyushin, P. O. Sukhoi and others developed projects for supersonic jet aircraft for various purposes. Already in April 1946, test flights of Soviet jet fighters Yak-15 and MIG-9 took place, and on the holiday of May 1 of the following year, more than 100 jet aircraft flew over Red Square during a military parade.

But they were fighters. They certainly increased the combat capabilities of the country's air defense system and the destruction of ground targets on the battlefield. However, it was necessary to solve another problem: to create a jet bomber capable of delivering a nuclear weapon to objects deep in the territory of a potential enemy. The first such aircraft was IL-28 with a range of 650 kilometers and a speed of 900 km/h. From the airfields of East Germany, he could strike almost the entire depth of the territory of the continental countries of Europe of the Anglo-American orientation (since 1949 - NATO), as well as Alaska. With high speed and high flight altitude, such an aircraft became a difficult target for Western air defense systems. Apparently, in connection with this, Stalin did his best to ensure that the new jet bomber entered the troops in sufficient quantities. 146

Few people know Stalin's order dated the spring of 1952: to create 100 bomber air divisions equipped with jet bombers. And although the leaders of the Air Force tried to prove to the head of state that the need for such aircraft, taking into account those already available, did not exceed 60 divisions, the order began to be carried out. At the headquarters of the Air Force grabbed his head. After all, in addition to these 100 divisions, to ensure their activities, it was necessary to form at least 30 cover fighter divisions and train up to 10 reconnaissance aviation regiments of at least 10 thousand

pilots, attack aircraft, specialists of other profiles, release 10 thousand bombers in excess of the plan, build airfields, hangars, warehouses, etc. Despite the protests of professionals, a special department was already created at the Air Force headquarters to solve this problem.

It is difficult to say how this whole undertaking would have ended, but already in 1952 the more advanced TU-16 jet bomber was successfully tested. The plane confidently kept the speed of 1000 km / h and flew at a distance of 4000 kilometers. Stalin ordered to put it into mass production, without waiting for the end of the tests. And he did the right thing. It was the height of the war in Korea, the possibility of using an atomic bomb by the Americans against China was discussed more than once in Washington - it was necessary to show that, if necessary, modern Soviet aviation would carry an atomic bomb to England and France. The order regarding the creation of a huge air fleet IL-28 lost relevance, and with the death of Stalin ceased

be performed.

Thus, the Soviet Union, having accepted the military-strategic challenge of the United States, and later NATO, from the beginning of the Cold War, decided to oppose their might with the military might of the socialist countries. In response to Washington's policy "from a position of strength," Moscow began to pursue its own power policy. New types of military equipment began to enter the army and navy in increasing quantities.The creation of the NATO bloc led to the fact that the USSR

In the 40s, he began to increase his armed forces again. In 1952-1953, the full motorization and mechanization of the Soviet Army was completed, aviation was re-equipped with jet aircraft, and the fleet was improved58. The troops received new samples of tanks, anti-aircraft guns, radar equipment, and automatic weapons.

The Soviet Union, along with the creation of atomic weapons and their aviation carriers, also took measures in the field of mastering rocket weapons. It is known that after the 2nd World War, German V-2 ballistic missiles and V-1 cruise missiles (aircraft projectiles) fell as trophies to both Americans and Russians. But, unlike the United States, in the USSR, where there were many German rocket scientists, they themselves did not play

significant role in the development of Soviet missile weapons. However, the German V-1 and V-2 rockets were carefully studied and tested in test launches. In the first post-war years, design thought in the USSR moved far ahead and the German experience was, of course, used. A thorough study of the advantages and disadvantages of the V-2 made it possible to reveal
the main drawback of German ballistic missiles. The Germans considered the rocket as a whole from the beginning to the end of the flight. But Soviet rocket scientists (and among them were aviation and artillery specialists) came to the conclusion that a different approach was needed to a ballistic missile. The rocket has two completely different flight stages: active, when they are working

engines - large fuel tanks are needed here - and passive, when it flies by inertia - like a stone from a sling. The higher the speed - and it increases with the increase in the planned flight range - the greater the load during re-entry on the descending branch of the trajectory. Practically, according to the V-2 principle, it was impossible to create a rocket for a range already above 1000 kilometers. After all, the part that has done its job is already useless on the active site - it must be separated. And you only need to make strong

warhead, not the entire rocket. This was a very important conclusion for the design of both single-stage, and even more so multi-stage rockets. Thanks to this technical discovery, Soviet specialists were the first in the world to create an intercontinental rocket, which, of course, had a special, great significance. But all this was later. And then, immediately after the war, on the basis of a decree of the

Council of Ministers of the USSR dated May 13, 1946, in October of the same year, the "Plan of the most important experimental work on jet weapons for 1946-1948" was adopted. It provided for the creation of domestic ballistic missiles with a range of 270 kilometers by December 1948, 600 kilometers by October 194959 . The basis of Soviet rocket science was NII-88, which settled in Podlipki. The color of the design ideas of the Soviet Union was assembled there. But the work was built differently

than in the fascist Reich. If in Peenemünde, Wernher von Braun was in charge of the entire chain, from development to launch, and all specialists were concentrated, then in the USSR the matter was put differently - on the basis of cooperation, with the involvement

leading scientists in every field. In certain areas, chief designers were appointed in the relevant ministries. V. P. Glushko in the Ministry of Aviation Industry became the chief designer of rocket engines. NII-885 is being created at the Ministry of Communications Industry to develop the entire radio complex and autonomous control required for missiles. M. S. Ryazansky was appointed chief designer, and N. A. Pilyugin was appointed his deputy for autonomous on-board control systems. V. N. Kuznetsov is appointed chief designer of launch complexes and refueling equipment. Each of the parent organizations had its own very extensive cooperation. In NII-88 itself, experimental design work was headed by chief engineer Yu. A. Pobedonostsev, his deputy B. E. Chertok and
the soul of the project - the chief designer of ballistic missiles

long-range cathode, head of department No. 3 of the Special Design Bureau of the Institute

S.P. Korolev. All these people have been to Germany, and knowing each other well, they unconditionally recognized the authority of S.P. Korolev. Even during their business trips in post-war Germany, this center was formed

collective management of the development of rocket science - the Council of Chief Designers. Korolyov was unanimously recognized as its chairman. In September 1947,

the team working on the ballistic missile project went to the test site in Kapustin Yar, in the lower reaches of the Volga. We traveled in a special train-laboratory, created back in Germany. His equipment made it possible to design any element of the rocket, to test, to check its various components and assemblies. Residential cars provided good conditions for work and leisure. The USSR Ministry of Defense then created a test site for missile technology, which at that time was called the

State Central Test Site. It was located between the Volga and Akhtuba rivers. To the east in the direction of the shooting - uninhabited trans-Volga steppes, at a distance of about a thousand kilometers - no special settlements.

All services of the range in September 1947 were still being created. The officers were stationed in a small town. The soldiers lived in tents and dugouts. Hot days of preparation for test

launches of the rocket began. In those days there were many problems with the equipment. Heated debate broke out over the identification of the causes of the shortcomings. The emerging problems were discussed at meetings of the State Commission. Its chairman was Marshal of Artillery N. D. Yakovlev, and its members included D. F. Ustinov, I. A. Serov (Deputy Beria) and other responsible persons. The first launch of the V-2 rocket took place on October 18, 1947 at 10:47. The rocket flew 207 kilometers and, deviating 30 kilometers from the course, collapsed in the dense layers of the atmosphere.

But with the second rocket, launched on October 20, there was an embarrassment. Already in the active phase of the flight, a strong deviation of the rocket to the left was recorded. No message was received from the estimated impact site, and field observers reported that the rocket "went towards Saratov." There was excitement at the range. Serov threatened the rocket men with big trouble if the rocket fell on the city. Fortunately, everything ended well: the rocket flew 231 kilometers, but deviated by 180 kilometers. It would not have reached Saratov anyway: the distance is more than 270 kilometers60 . It became clear: V-2s were outdated - it was necessary to create a new one,

more advanced rocket.

The following year, 1948, the R-1 was created - the first Soviet rocket. It was a copy of the German one, but for the success of the future Soviet rocket science, it was necessary to go through this stage as well. Soviet industry had no experience in creating such weapons. It was required to introduce new technologies, to use previously unknown materials that the industry was just mastering. 35 research institutes and design bureaus, as well as 18 factories, were involved in this work. On October 10, 1948, the first domestic

ballistic missile R-1.

12 R-1 missiles were delivered for testing. It took 9 from the start, and 7 of them reached the goal. The accuracy of the hit was higher than that of the German missiles. It was already a success. It was due to the fact that during the work on the German rocket, the main drawback of the V-2 was revealed - the weakness of the tail. She flew along a ballistic trajectory, and on a descending line, when entering at high speed into the dense layers of the atmosphere, the tail assembly usually could not withstand the loads and could no longer work fully - as a result, the rocket collapsed. Other shortcomings were also identified. But still, the new Soviet weapons could not yet be called reliable. The R-1 rocket
gained full development power after a successful launch on October 10, 1948. Dal

The most extensive tests have confirmed the correctness of our designers' solution of the main problems associated with the creation of a ballistic missile. Flight tests of the

second, more advanced, series of the same missiles were carried out in September-October 1949. The test results showed that the characteristics of the missiles, their quality, the reliability of the operation of the control equipment, propulsion systems and ground equipment units are significantly higher than those of the missiles of the first series. Soon the third series of R-1 was tested at the test site. And so, by a decree of the USSR government of November 28, 1950, the R-1 rocket was put into service. The rocket weighing 13.4 tons had a range of 270 kilometers and carried a conventional explosive charge weighing 785 kilograms. It had an accuracy of hitting a rectangle of 20 kilometers in range and 8 kilometers in a lateral direction61 .

Simultaneously with the development of the R-1, scientific and experimental work was carried out on the R-2 rocket, the range of which was designed for 600 kilometers. Its design was significantly different from the R-1, the accuracy of hitting the target was provided by a radio correction system. Flight tests of this missile began in September 1949. An important difference between this rocket and the previous one was the implementation of Korolev's idea of separating the warhead from the rest of the rocket body, which was not the case in the V-2, and the transfer of the instrument compartment to the lower part of the body. In November 1951, this missile was also put into service. With a weight of 20 tons, it could hit objects at a distance of 600 kilometers, and the mass of its combat charge was 1008 kilograms62 .

In the troops, fire tests of the R-2 were carried out in 1952 near Luga during the training of the command staff of missile units under the leadership of the Deputy Minister of War for Armaments, Colonel-General M. I. Nedelin. It should be said that Mitrofan Ivanovich Nedelin
(1902-1960) was an outstanding Soviet military commander.

com, who did a lot for the formation and development of missile

troops. A participant in the Civil War, he met the Great Patriotic War as a colonel, an artilleryman. He headed the artillery of a number of armies and fronts. After the war, he persistently defended advanced views on the most effective use of the achievements of the military-technical revolution, especially in the field of rocket weapons. In 1959, he became the first Commander-in-Chief of the Strategic Missile Forces in the USSR. In 1960, he died while testing a strategic missile. Although the R-2 missile system differed from the R-1, providing a greater range of action, this missile still did not meet the requirements of modern warfare. The bulky
composition of large-sized units of ground equipment, the use of rapidly evaporating liquid oxygen as an oxidizer made it difficult for the combat use of the complex, made it inactive and vulnerable to enemy damage. It was necessary to look for samples of rocket weapons that were more advanced in technical and combat terms. Therefore, in 1951, under the leadership of S.P. Korolev, a new rocket, the R-11, began to be developed, with an engine running on high-boiling components (nitric acid and kerosene), a new autonomous control system and higher quality ground equipment. She had a range of 270 kilometers, weight - 5.4 tons, a charge equal to 353 kilograms. Its mobile version of the R-11M was a caterpillar self-propelled unit. The accuracy of the hit was 8x8 kilometers. In the future, its version of the R-11FM was installed on submarines. The R-11 missile was put into service in 1956. But back in 1955, the R-5 ballistic missile with a range of 1200 kilometers was tested and began to enter the troops. She (weight 29 tons) could carry a 1000-kilogram charge and had increased hit accuracy due to a combined control system (autonomous and by radio).

But the main achievement of the 1st half of the 50s in the Soviet rocket industry was the R-5M rocket - a mobile version of the R-5. This complex was the world's first missile carrying a nuclear charge at a range of 1200 kilometers. And although all Soviet missiles of that time, except for the R-11 and R-11 M, were single-stage and had liquid-propellant engines (LPRE) designed by V.P. Glushko using ethyl alcohol and liquid oxygen, this was undoubtedly a new word in the world rocket technology. If the Americans at that time made the main emphasis on improving the aviation means of delivering nuclear and conventional munitions to the target, then in the USSR the priority was the development of missile weapons for operational-tactical, and then strategic purposes. The successes of the Soviet Union in creating an atomic bomb, jet aircraft capable of carrying it, missile systems with a nuclear charge allowed the command

Armed Forces to introduce new types of weapons into the troops,

test their effectiveness and train personnel to operate them and operate under the calculated conditions of an atomic war.

A significant event of those years was the military exercise, which took place in September 1954 at the Totsk training ground near the city of Buzuluk. In the past, the chairman of the Totsk regional executive committee, F. I. Kolesov, recalled that when the issue of evicting residents from nearby villages was being decided, he asked the military: “Why will you detonate the bomb here, and not in the sands - are we not enough of them? : you need to know what will happen exactly here - there is exactly the same terrain and population density as in Germany"63 . It was about working out the offensive of our troops in the "European theater of operations." Moreover, the atomic bomb
was assigned the role of a super-powerful landmine, "cracking" the defenses of NATO troops, punching a hole in it, through which Soviet tanks advancing to the west were supposed to pour and

motorized infantry. 154

Before the start of the explosion, the troops participating in the exercise were located in shelters no closer than 5-7 kilometers from the planned epicenter of the explosion. The leadership of the USSR Ministry of Defense, the ministers of defense of a number of allied countries, and the commanders of the troops of the districts were 11 kilometers from the place where the atomic bomb was dropped in an open area, having only light-protective goggles.

Bomber Kutyrchev, TU-4A, manned pilot
took off early in the morning from the airfield in Vladimirovka (south of Stalingrad) and at 9:30 a.m. dropped an RDS-3 bomb over the test site. It exploded at an altitude of about 380 meters. Eyewitnesses say that the ground seemed to sway and leave from under their feet. There was an infernal roar and crackle (this was a shock air wave), and a dazzlingly bright atomic mushroom grew over the test site. After 5 minutes, the atomic alarm was released. A powerful artillery preparation for the offensive began, and bomber and fighter aircraft (IL-28 and MIG-15bis aircraft) bombed the "enemy" fortifications. Aviation engineer S. Krylov, who served the aircraft after they landed at the airfield, recalled: “Imagine: the earth breathes heat, a strong wind heated to 40 degrees hits your face, your mouth is dry, your head cracks, sweat

flows down your back into boots, but a gas mask and the protective suit must not be removed . The advanced units of the advancing troops advanced to the explosion area after 2.5 hours. Attacking subunits in protective equipment passed 500-600 meters from the epicenter, receiving a radiation dose of 0.02-0.03 roentgens, and in tanks 4-5 times less. Of course, those infantrymen who,
after the end of artillery preparation and bombing, followed the tanks through the epicenter of the atomic explosion, had the hardest time of all. A participant in the exercises, I. Vukhanovsky, a major in the medical service, said: “I found myself at the epicenter already half an hour after the explosion. The earth turned into slag and was, as it were, beaten up. Everywhere

fires burned down, birds with burnt roofs flew up and fell

liami. Many experimental animals burned alive, there were many wounded cows, sheep, horses. Here I saw with my own eyes how inhumane this weapon is."65 By evening, the all-clear signal sounded. A few days after the

exercises, a short TASS report appeared in Pravda: "In accordance with the plan for scientific research, a test of one of the types of atomic weapons was carried out in the Soviet Union . Valuable results have been obtained that will help to successfully solve the tasks of protecting against atomic attack. "Later, more serious consequences of radiation exposure and radioactive contamination of

the area were revealed, which affected the local population. Only in 1990, after the removal of the non-disclosure of state secrets, was a committee formed veterans of special-risk units, which set itself the goal of identifying all the living participants in the Totsk military exercises, as well as nuclear weapons tests.With the appearance in the USSR of carriers of atomic weapons - missiles and aircraft - the Soviet Armed Forces entered a new stage in their development. But it was necessary to qualitatively re-equip the air defense
forces, because those means of combating an air enemy that were used during the Second World War and the first time after it were no longer suitable for combating high-speed, equipped with radio reconnaissance equipment and interference from the American and British jet aircraft. In anticipation of a possible massive air attack using nuclear munitions, which was threatened by the United States, the Soviet government took vigorous measures to strengthen the air defense, increase its combat capabilities, and make it insurmountable for the potential enemy's air attack weapons. The development of the air defense forces went in many directions. Jet fighters, interceptors, radio-controlled anti-aircraft 156 appeared in the USSR

guns, new radar and radio equipment, anti-aircraft missiles, the latest electronic warfare equipment were tested and put into service, intensive preparations were underway to automate the controls for various systems of air defense weapons. It must be said that the rearmament was not without difficulties. Take at least jet fighter aircraft. So, for

example, when in 1947 the Soviet government was offered two new fighters - the piston La-11 designed by S. Lavochkin and the jet MIG-9 by A. Mikoyan, Stalin gave preference to the La-11. Even when Lavochkin himself recommended putting the MIG-9 into production, Stalin said: “La-11 is an aircraft on which all defects have already been eliminated, there are

the pilot who tested it, and the technology for its use has been developed. What is MIG-9? A pile of metal "66. But he soon realized the importance of jet aircraft. And already on May 1, 1947, the MIG-9 was demonstrated to the public at the air parade in Moscow. The MIG-9 was the first sign. The development of jet aircraft in the USSR proceeded at an accelerated pace, and already in At the end of 1947, the design bureau of A. I. Mikoyan

released the MIG-15, which was destined to play a special role in air battles with American aircraft during the Korean War. aircraft with similar Soviet models Test pilot A. G. Kochetkov, on the instructions of the Air Force Research Institute, made the first flight on the ME-262 on August 15, 1945. The report on this event noted that "the captured ME 262 aircraft ... has a great advantage in maximum horizontal speed in front of modern domestic and foreign fighters with VMG (propeller group, that is, piston aircraft) and has a satisfactory speed

ME-262. Soviet

lift capacity and flight range. The poor take-off properties of an aircraft with gas turbine jet engines require large runways up to 3 kilometers long or the use of special take-off boosters (powder or liquid rockets)."

However, they did not begin to produce and master this aircraft in the USSR. The famous Soviet aircraft designer A.S. Yakovlev wrote in his book "The Purpose of Life. Notes of an Aircraft Designer":

"On one from Stalin's conferences, when discussing issues related to the work of the aviation industry, A. I. considered the proposal of the People's Commissar of the Messerschmitt-262 jet fighter Stalin asked captured by Khrunichev for mass production. During the discussion,

whether I am with this aircraft and what is my opinion.

I replied that I know the ME-262 aircraft But resolutely of his aircraft, a complicated flight control that has V series, because it is a bad objection to the launch suffered a number of German disasters. If And on They will quickly be That scare away our pilots from weapons, aviation. convinced by their own experience that this aircraft is dangerous and has poor take-off and landing properties. I also noticed that if we copy resources, this machine will be mobilized, we will cause great damage to work on domestic

", all attention and on

jet planes. Finally, it had to be taken into account that from our designers By jet aircraft were doing well. Artem Mikoyan worked on the MIG-9 twin-engine fighter. We built a single-engine Yak-15 fighter, October 1945 was

already on airport, did jogging and flights."

But still, an attempt to create a fighter based on the ME-262 was made in 1946 at the pilot plant of the Design Bureau of P. O. Sukhoi. The aircraft built there was also equipped with two jet engines and configuration

tion was very reminiscent of the ME-262. It differed only in a slightly modified wing shape. The aircraft was tested in flight by the same pilot A. G. Kochetkov. It could reach speeds of up to 885 km / h, had a ceiling of 12,800 and a range of 1,200 kilometers. However, the aircraft did not go into production, because by that time the Sukhoi Design Bureau had released a new jet fighter with better performance. There was also an improved version of the MI G-15 fighter. It became known as MIG-17 and entered the history of air defense for a long time.

Soviet design thought paid much attention to the creation of anti-aircraft guided missiles. In NII-88, which developed mainly ground-to-ground missiles, there was a certain department No. 4, headed by E. V. Sinelshchikov. This department was engaged in the design of anti-aircraft guided missiles (SAM) with a homing head. In its work, the department relied on the captured German anti-aircraft missile "Wasserfall". In Germany, she did not go beyond the stage of testing, and now in the USSR they intended to use her to create Soviet missiles. A number of departments were engaged in anti-aircraft missiles of German origin, striving to improve German guided anti-aircraft shells "Schmeterlink", "Reintochter", unguided rockets "Typhoon", as well as engines for them. The Soviet government attached great importance to work on anti-aircraft missiles. In conditions when the "cold war" was gaining strength, a powerful air defense was required, capable of reliably resisting the air armadas of a potential enemy. First of all, it was necessary to protect at least the main vital
administrative and political centers and military industrial facilities of the country from air strikes. And then it was decided to create a Moscow air defense system based on guided anti-aircraft missiles. In the development of Soviet anti-aircraft missiles, a significant role was assigned to German experience in the creation of anti-aircraft weapons. In August 1950, the Council of Ministers of the USSR passed a resolution on the creation of a

Moscow ring of anti-aircraft missile defense. This work was headed by the almighty L.P. Beria. Under his auspices, the 3rd Main Directorate, specially formed under the Council of Ministers, led the work in this area. At NII-88, the lot fell to bring the Wasserfall to such a level as to create an

effective guided anti-aircraft missile on its basis. Management problems were dealt with by NII-885 (a former telephone factory). However, things with "Wasserfall" were tight. This had its reasons. First, the German rocket men in

The development of the V-2 and V-1 succeeded much more than in the work on anti-aircraft missiles, since the problems of controlling the latter were much more difficult than those of the rocket. there and the class "earth - earth". Secondly, in the 1940s, Soviet leaders of anti-aircraft missile projects did not enjoy such indisputable authority in their teams as the creators of the R-1 and R-2 and other ground-to-ground missiles. And if in Peenemünde the Germans made dozens of launches of the Wasserfall, albeit unsuccessful, then by the end of the 40s, the team of Sinelshchikov and S. L. Beria (son of L. P. Beria) did not go beyond the stage of drawings of the SAM, which was very reminiscent of the Wasserfall ". As a result, the development of captured missiles was stopped, and the 3rd Main Directorate and KB-1 subordinate to it took up the creation of Soviet anti-aircraft missiles. In 1953, S. Lavochkin's missiles successfully hit TU-4 target aircraft at the same training ground in Kapustin Yar, where S. Korolev's missiles were tested.

Intensive work was underway to create the first in the USSR anti-aircraft missile system S-25 "Berkut". The first launch of this S-25 anti-aircraft missile was made on July 25, 1951. In October of the same year, tests of a prototype radar station for guiding these missiles began near Moscow. A participant in the work on the creation of the S-25, reserve colonel Mikhail Borodulin, recalled:

“At April fifty-first to us, graduates of the military
the academy, they offered to fill out one questionnaire. a small group of lieutenants was A 6 June
received by the head of the jet
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Faculty Lieutenant General of Artillery Sergei Fedorovich Nilovsky. Only a few days later we learned that
He already
To by that time, Nilovsky was appointed head of the anti-aircraft training ground
missile troops. We talked says: tomorrow be O volume, O sem, A
flying? Get to know Kapustin Yar. on Central airfield. They asked where
We V plane, replies. So we got involved in the preparation of Lavochkin V
missiles
To
start-up The shooting was intense. It took a lot of courage
from pilots. They raised targets their pa track for And
ejected. Then the targets went by them - two escort fighters. If the packets on autopilot.
they finished off the target ... 25 missed, May 1953. A TU-4 bomber is destroyed by a 600 missile. That of
effectively fighting other That Russia is a new type of day and a weapon - anti-aircraft missile, capable of
aerodynamic means 61 in any weather conditions, day and night " on height kilometers
With high-explosive fragmentation warhead E
considered a birthday V
With airplanes And
attacks in And .

Until the summer of 1954, intensive control firing at IL-28 and TU-4 aircraft was carried out at the Kapustin Yar training ground in order to evaluate the effectiveness and determine the affected areas of missiles. Then the system was submitted for state tests.

From June 25, 1954 to April 1, 1955, the creators of the S-25 carried out 69 rocket launches. April 21 exam held

regular army regiment. The shooting went well. And in May 1955, the first domestic anti-aircraft missile system entered service with the country's Air Defense Forces. S-25 anti-aircraft missile systems formed two rings around Moscow. The system made it possible to simultaneously fire at up to 20 targets at an altitude of 3 to 25 kilometers. Each regiment was assigned a separate sector, within which it provided cover for objects. So Moscow was protected from a possible air attack. 161

But only Moscow. The airspace of the rest of the USSR was still guarded by fighter aircraft and more advanced anti-aircraft artillery systems. These funds could reliably protect the sky of the Soviet Union from a massive attack only by piston strategic bombers and jet aircraft of the first models (B-36), but they could not fight high-speed (1000 km / h) and high-altitude (16-17 thousand m) targets . In addition, the weakly equipped radio engineering troops (radar stations), especially in the northern regions of the country, were a weak point of the Soviet air defense. All these serious military preparations of the opposing sides for a global nuclear war were generated by the hostile policy of the recent allies in the anti-Hitler coalition. Stalin's speech at an election rally on the eve of the elections to the Supreme Soviet

of the USSR on February 9, 1946 called on the Soviet people to be vigilant in regard to the designs of world imperialism. Winston Churchill's Fulton speech (March 5, 1946) declared the Soviet Union a country that lowered the "Iron Curtain" over Europe. This speech became the manifesto of the Cold War. In March 1947, the so-called "Truman Doctrine" was proclaimed. It was based on the idea of "containment of communism". It was envisaged to establish the hegemony of the United States and its allied Western powers in the world. The "containment of communism" was conceived as a struggle against the left forces, which after the war gained great influence in the capitalist

countries of Europe, as the suppression of the USSR's desire to create a pro-Soviet bloc with neighboring countries, as the deployment of a network of American military bases in the regions adjacent to the Soviet Union and the provision of the necessary military-political conditions for pursuing a policy "from a position of strength" by all methods except war68 . At the same time, all these actions of statesmen of the great powers, who have recently defeated a common enemy, are still

did not mean a complete rupture of those allied relations that had developed during the 2nd World War. Contacts and conferences of foreign ministers of the countries of the victors continued, peace treaties were signed (February 1947) with Italy, Romania, Hungary, Bulgaria, Finland, negotiations were held on the German question.

However, the desire of the USSR to create a belt of friendly states on its borders to replace the anti-Soviet "cordon sanitaire" that existed before the war, to strengthen its influence in these countries, which in those years became countries of "people's democracy" with growing elements of socialism, was perceived by the West as "the expansion of the Soviets", while the Iranian crisis of 1945-1946, Soviet territorial demands on Turkey, and the intensification of the struggle of the Greek left forces against the American occupiers were regarded as Moscow's attempts to pursue a policy of so-called "patchwork aggression." The United States was especially worried about the growing influence of the USSR in Eastern Europe and the authority of the Communist parties in France, Italy, Belgium and a number of other Western countries. Therefore, the greatest funds were invested in the countries of Western Europe in order to make them the strongest possible counterbalance to the Soviet Union. The power of Western European capitalism, closely connected with and dependent on American capitalism, was reviving. On this basis, a new military-political structure was erected, a powerful military machine directed against the Soviet Union was created. However, for all this it was necessary to create a fairly solid economic base in Western Europe. Its basis was laid by the "Marshall Plan", put forward by the US Secretary of State J. Marshall in June 1947 and adopted for the countries of Western Europe in the same month at the conference of the foreign ministers of England, France and the USSR in Paris. Although the USSR participated in the conference, it rejected this plan for itself and did not recommend that the governments of the countries of people's democracy accept it. But why?

First, because the countries that agreed to accept this plan and American assistance under it had to provide the United States with full information about the state of their economy, the country's losses in the war, foreign exchange reserves, and the proposed use of American funds. And this meant that the Soviet Union had to reveal all its secrets, including projects and the progress of work on the creation of atomic and missile weapons, show the state of its economy and ways to restore it, put the country's human and natural resources under American control. Secondly, the "Marshall Plan" was designed to restore the capitalist economy, and in the USSR already in the 30s, and especially during the war, a

socialist economy was established, for which this plan was unacceptable, the Soviet leadership at that time under no circumstances would not accept the capitalist way of restoring the national economy. (Today, based on the experience of the last 15 years, we are convinced of the price our people pay for hasty capitalist reforms.) would be unnecessary hardships for America's ruling class, already

adopted a course of confrontation with the USSR. From the point of view of American strategy (and this was the main thing for Washington at that time), Europe, with a policy of confrontation with the USSR, had a number of advantages. Here the borders of the capitalist West came close to the countries of people's democracy, there were "open" approaches to the USSR in the north and in the south, which ensured the exit of strategic bombers to the vital regions of the USSR. At the same time, the attention of Washington politicians was increasingly attracted to the center of Europe. In their European strategy, the main role was assigned to West Germany. It was to rise from the ruins and become the main center of anti-Sovietism in Europe. All means - economic, military, ideological were directed

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We are determined to bring the front of confrontation with socialism to the very center of Europe as soon as possible, to make it the front line of confrontation between East and West. There was another important task that the US hoped to solve by creating its own forward-based forces. "One of the basic concepts of our modern strategy," wrote US Navy Chief of Staff Admiral Sherman in 1951, "is to wage the war as far as possible from the United States. " American experts believed that the distance separating Europe, where the main part of the US airborne nuclear armada was based, from the American continent should have preserved the strategic invulnerability of the United States. In general, the fear of human losses, even the smallest ones, has not left the American establishment since the 2nd World War. Both Truman and Marshall, and especially Eisenhower, many other statesmen and military figures who held leading positions in those years, remembered how

American society reacted to the loss of US soldiers and officers in the battles of that war. Here is a concrete example. When in the Ardennes operation (December 1944) the Germans broke through the western front and the Americans suffered a large, in their opinion, loss of people - 77 thousand people, including 19 thousand killed - this caused a shock in the United States. Commander-in-Chief D. Eisenhower was in big trouble. W. Churchill, seeing that the Wehrmacht was still very strong and capable of not only defending, but also advancing, turned to

I. Stalin with a well-known letter about speeding up the Soviet offensive in the east. There is only one goal - to force the Germans to concentrate the largest number of forces on the Soviet-German front and thereby weaken the western front, removing the threat of heavy losses. Indeed, the Vistula-Oder operation, which began 8 days ahead of schedule, pulled the main striking forces of the Wehrmacht (6th SS Panzer Army) to the east, which allowed the Allies to restore their

position.

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Another example. When in May-June 1945 between

scientists and the military in the United States were arguing about how to frighten Japanese with a bomb, atomic scientists to conduct a demonstration explosion on one of the Pacific islands with the invitation of representatives of different countries, including Japan | The dispute was settled in favor of the military, eager to drop the bomb on Japan, and without warning. An important argument of the US command was the assault on the island of Okinawa by American troops, where the Americans lost 13 thousand people killed, which was also painfully perceived by the American society, which was only marginally affected by the hardships and victims of the war.

It is no coincidence that one of the Americans, the author of the book "The Good War" Studs Terkel wrote: "Almost. The whole world experienced terrible upheavals and horrors during the war and was almost destroyed. We came out of the war with incredible equipment, tools, working power and money. For most Americans, the war turned out to be fun ... I'm not talking about those unfortunate ones who lost their sons and daughters. But for everyone else, it was a damn good time "70 . Therefore, when the atomic bomb and its first carriers appeared in the USSR, the fear of a possible atomic strike, even within the borders of Alaska and Europe, where there were numerous American troops, gripped the American society. Therefore, in the event of a war and a rapid Soviet offensive to the shores of the English Channel and the Pyrenees, to oppose these tank and aviation armadas, which are already capable of carrying atomic charges, with the forces of the Allied ground forces with minimal participation of American military personnel - this is the task that the American military-political leadership has always solved. These views of that time were quite clearly and cynically formulated by Admiral Collins: "It is enough that we supply weapons. Our sons should not bleed in Europe"71. The backbone of the ground forces were to be provided by European NATO countries. At first, it was envisaged to form 80-85 divi

ziy. In the future, the countries of Western Europe planned to increase their land contingent, constituting the "main core of the available ground forces" of the North Atlantic bloc.

Other regions of the planet that were of great geostrategic importance were not left without attention. Back in 1947, the United States concluded the Inter-American Mutual Assistance Treaty with the countries of Latin America, in 1952 Greece and Turkey were admitted to NATO, and in 1954 the Southeast Asia Defense Treaty (SEATO) was signed. Europe, frightening Western European allies with the "communist danger" from the

IN East, relying on its economic and military might, and above all on nuclear weapons, the US ruling circles managed to impose their strategy on NATO. In September 1950, at a session of the North Atlantic Pact Council in New York, the so-called "Forward Frontier Strategy" of NATO in Europe was adopted. The main components of this strategy were:

the presence of US troops in Europe; deployment of pact troops directly on the border between the Soviet Union, pro-Soviet countries and NATO countries in Europe; the rearmament of West Germany, which was assigned the role of the main striking force in the land war, and, finally, the refusal to recognize the Oder-Neisse border between Germany and Poland not as a demarcation line, but as a permanent border. In 1952, the NATO Council announced the adoption of the basic principles of the bloc's military strategy, which were set out in document MS-14/1 of 9 December. The Soviet Union and its "people's democracies" friendly to it watched with alarm the military preparations that were taking place
across the ocean and west of the Elbe. The tests of atomic and hydrogen bombs carried out in these years by the Pentagon, the continuous increase in the power of strategic bomber aviation, the ring of military air bases that were created around the USSR, the militant rhetoric that was heard more and more clearly from across the ocean - all this demanded a response.

ny adequate measures. The USSR was forced to accept the challenge thrown by the ruling circles of the United States, which openly declared their desire for a "transformation of the social system" in the Soviet Union. It was not our choice. The Soviet Union, in the conditions that developed after World War II, advocated the prohibition and elimination of atomic weapons. This was explained by the fact that the processes developing in the world objectively worked in favor of the USSR. The disintegration of the colonial system and the shift to the left of the masses in the capitalist countries created favorable conditions for the political and ideological offensive of the forces of socialism. In military terms, the USSR was weaker than the United States, and the victory on the ideological front of Soviet views on the development of the world was historically necessary for it. The declaration of the meeting of the Communist Parties in 1947 spoke of
the real possibilities of preventing war73. In 1948, Stalin, in response to a letter from US presidential candidate G. Wallace, wrote: “The government of the USSR believes that despite the difference in economic systems and ideologies, the coexistence of these systems and the peaceful settlement of differences between the USSR and the USA are not only possible, but also are unquestionably necessary in the interests of world peace .

Of course, although the concept of “geopolitics” was not used in the USSR at that time, in fact, the Stalinist concept of the “peace camp”, which meant the USSR and the pro-Soviet states surrounding it, was geopolitical in nature. But Roosevelt, Truman, and Churchill thought in such categories. So Stalin was no exception. In essence, the Yalta-Potsdam system was based on the division of the world into "spheres of interest" of the great powers. And this suited the Soviet leadership quite well, since it gave time to assert its influence in Eastern Europe. And the United States, which in the early post-war years had a monopoly on

the atomic bomb, made every effort to establish Western (under their auspices) hegemony in the world. Any actions of the USSR to consolidate the

Views of the conquered "spheres of interest" in Eastern Europe were perceived by Washington with hostility. The United States, by extolling its military might, challenged the Soviet Union and pushed it into an arms race, confident of its victory. The challenge was accepted. And although we always "played black" in the cruel game of military rivalry with the United States, responding to the moves of the other side, the fever of confrontation for many years seized both countries, and then other states, creating an atmosphere of a shaky, unstable peace, balancing on the brink of war. Of course, there were also people in the American government (especially from F. Roosevelt's former entourage) who were anxious about the possibility of a dangerous crisis in relations between the USSR and the USA. American scientists also pointed out the danger of improving and accumulating nuclear weapons, noting that a nuclear war would be the last war. However, nuclear euphoria prevailed over common sense.

Under these conditions, the Soviet Union began to formulate programs for atomic and missile weapons, jet aircraft and the improvement of air defense. At the same time,

the USSR launched a powerful propaganda campaign to ban atomic weapons, which at first it did not have, and then lagged behind in the accumulation of a stock of atomic bombs. And she found a response in the world community. In many Western countries, the influence of the forces fighting for peace and against nuclear war has increased. Thus, the Stockholm Appeal (1950), initiated by the Soviet Union, which called for a ban on nuclear weapons and the criminalization of any government that used them first, was signed by 14 million French, 17 million Italians, 1 million British, 2 million Americans, 3 million Japanese75. Public protests in various countries put a brake on US plans to include the FRG in NATO for several years. All this showed that even then, in the first five years after the Second World War, there were conditions for the movement of the peoples of the world against the arms race.

became a decisive factor in politics in the international arena. This opportunity, unfortunately, was not used due to the ever-increasing confrontation between the West and the East.

There were good reasons for this. The growth of the defensive might of the Soviet Union, the growth of its ability to prevent an air-nuclear attack by NATO countries or to deliver a crushing retaliatory strike, kept the American ruling circles from taking extreme measures. In August 1952, at one of the meetings of the US National Security Council, it was stated: "The growing atomic potential of the USSR and the possible appearance of thermonuclear weapons ... significantly changes the position of the United States

in the field of security and requires a thorough review of existing policies and programs, because it makes the United States very vulnerable. "76 Even then it became clear that an air-atomic attack on the USSR was incapable of defeating the Soviet Union in a quick war.

Nevertheless, the escalation of military hysteria in the United States continued, which further complicated relations between the two superpowers. In turn, the Soviet Union was not able to fully realize the enormous moral authority that it acquired during the 2nd World War. The often inadequate reaction to the actions or rhetoric of the West did not allow the Soviet Union to consolidate pro-communist forces in the West and East in order to stop the Cold War mechanism gaining momentum. The world community was not fully aware of the danger of a global nuclear war, on the brink of which the world was teetering: there were still no forces capable of understanding and clearly explaining to the whole world the catastrophic consequences of a nuclear war for the entire globe. Only the lessons of subsequent years, when political crises escalated into armed conflicts, as happened in Korea, during the periods of the Suez, Berlin, and Caribbean crises, made governments and peoples think about nuclear
war as a general catastrophe and the need for decisive measures to prevent it. 170

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CHAPTER III KOREA: A TEST OF FORCE

In the early 1950s, the Cold War flared up more and more. The confrontation between the opposing sides of the bipolar world that had developed by that time was growing. The arms race that unfolded between the NATO bloc led by the United States, on the one hand, and the USSR with its allies, on the other, was gaining momentum. Conflicts of varying degrees of tension flared up and went out. Hot spots arose where the political and economic interests of the parties clashed. The national liberation struggle of the peoples of the colonial countries shook the planet. In China, the people's liberation forces won, the peoples of Indonesia liberated themselves from Dutch domination, in the 1940s and 1950s there was a war of resistance of the Vietnamese people against the French colonialists, Malay patriots fought against England, and the people of the Philippines fought the American imperialists.

Washington and London did not want to notice the objective nature of the national liberation movement - the whole world saw the "hand of Moscow." The policy of "rolling back communism" was elevated to the rank of a priority policy of the West. The Soviet Union showed by all its actions and statements that it was not afraid of threats, supported the struggle of the peoples against the aggression of imperialism, as well as the communist parties in the capitalist countries. Speaking in honor of the 32nd anniversary of the Great October Revolution, Secretary of the Central

Committee G.M. not for individual capitalist states, but for the whole of world capitalism .

The first open battle, in which the main countries of the West - the USA, England and others, as well as the countries of the socialist bloc - the PRC, the DPRK and the USSR, directly participated, was the war in Korea, which broke out in 1950 between North and

South Korea. Korea

has always been a unified state in the past. After the Russo-Japanese War of 1904-1905, she fell into colonial dependence on Japan. The defeat of the Japanese troops in 1945, in which Soviet and American troops participated, led to the liberation of Korea and the division. The division into two occupation zones along the 38th parallel was thought then as a temporary measure necessary to accept the surrender of Japanese troops. A healthy basis for the
revival of Korea as an independent, democratic and united state was the decision of the Moscow Conference of the Ministers of Foreign Affairs of the USSR, the USA and Great Britain, held in December 1945. It provided for the formation of an all-Korean government, which, together with the allied powers, was to develop measures to overcome the consequences of Japan's long colonial rule. 175

However, the implementation of the Moscow Agreement, in particular, on the restoration of economic ties between North and South Korea, ran into difficulties. They were largely created by the presence of Soviet and American troops on the peninsula. In May 1948, separate elections were held on the territory of South Korea under the control of a UN commission established at the initiative of the

United States. Lee Syngman, a former professor at the University of Washington, was elected to the post of head of state. The government of South Korea declared itself the government of the whole country, which, of course, the communist forces of the North did not agree with. In the summer of 1948, they organized elections for the Supreme People's Assembly of Korea, which on September 9 the Democratic People's Republic of Korea (DPRK). Thus, a pro-Soviet communist state was formed in the north of the country. There was a political and legal formalization of the split of Korea into two states, and the government of each of them declared itself, according to its constitution, the only legal one and intended to extend its power to the whole of Korea. proclaimed

1. North and South: who is first?

In 1948, at the request of the Supreme People's Assembly of the DPRK, all Soviet troops were withdrawn from the North. The Americans withdrew their troops from South Korea only in the summer of 1949, but left about 500 advisers there; military advisers of the USSR remained in the DPRK. With the development of the Cold War and the confrontation between the USSR and the USA, the situation on the

Korean Peninsula became more and more aggravated. Armed clashes on the 38th parallel, along which the border between the DPRK and the Republic of Korea passed, happened more and more often.

All this took place against the backdrop of important political changes taking place in the Far East region. In the fall of 1949, the People's Revolution won in China.

tion, and the Communists led the leadership of a new people's democratic state - the People's Republic of China. In February 1950, the People's Republic of China signed an agreement on friendship, alliance and mutual assistance with the USSR. The union of the USSR and the PRC and the fact that both communist powers strongly supported the people's democratic regime in the DPRK encouraged the leadership of North Korea to unite the entire country by military means. But, of course, the head of the DPRK, Kim Il Sung, wanted to enlist the approval of his military campaign to the south from the PRC and the USSR. For Kim Il Sung, the support of the USSR was

especially important, which, having restored its national economy after World War II, was one of the most powerful military powers in the world. Kim Il Sung remembered that on October 13, 1948, in a telegram of greetings to the government of North Korea on the occasion of the proclamation of the DPRK, I. V. Stalin limited himself to wishing the new government success "in its activities on the path of national revival and democratic development," further relations between the two states . Therefore, the head of the DPRK government persistently sought Moscow's consent to the visit of the DPRK government delegation to the Soviet Union. The leader of the North Korean communists needed to find out Stalin's position in relation to his country. In January 1949, such consent was obtained, and on March 5 of the same year, a DPRK government delegation headed by Prime Minister Kim Il Sung and Foreign Minister Pak Hyun Yong arrived in Moscow. The delegation also included the DPRK
Ambassador to the USSR Du Yong Ha. Apart from Stalin, Minister of Foreign Affairs A.Ya. Vyshinsky and Soviet Ambassador to the DPRK T.F. Shtykov took part in the negotiations on the Soviet side. On March 5–18, intensive negotiations were held between the two countries. As a result, 11 agreements were concluded. They concerned economic and cultural cooperation, the provision of technical assistance to North Korea, the expansion of lending to trade and

payments. The conditions for the work of Soviet specialists in the DPRK were developed. Special agreements provided for the temporary deployment of a Soviet naval unit in the port of Seishin and the construction of a railway from Kraskino (USSR) to Khonio (DPRK). A Soviet trade mission was created in Pyongyang, and an air line was established between the USSR and the DPRK. All agreements, except economic and cultural, were secret. The USSR agreed to supply equipment and weapons to the DPRK, paid for in gold and goods.

Since the end of 1949, relations between the two Korean

states became more and more acute. Both governments claimed the unification of Korea, each under its own auspices. In October 1949, South Korean President Lee Syngman, in a conversation with American sailors in Inchon, said that "if we have to solve this problem on the battlefield, we will do everything that is required of us"3 . On December 30, at a press conference, he hardened his position, saying that "we should unite South and North Korea by our own efforts"4 . On March 1, 1950, speaking at a rally in Seoul, Syngman Rhee proclaimed that "the hour of Korean unification is approaching . " His Minister of Defense was also not shy about expressing himself on February 9 of the same year, he said: "We are in full readiness to fight for the restoration of the lost territory and are just waiting for the order" 6 . The United States also did a lot to, as the then American ambassador to Seoul, J. Muccio, said, "to speed up the time for a general offensive on the territory north of the 38th parallel." In January 1950, 5 months before the start of the war, the chief US military adviser in South Korea, General W. Roberts, at a meeting with South Korean ministers, said that "we will start the attack," but "it is necessary to create a pretext for the attack so that it has a justified reason" 7 . To the north of the 38th parallel, very warlike plans were also hatched, but this was done in compliance with

secrecy, without broadcast statements. Intensive deliveries of weapons, military equipment, and ammunition from the USSR to North Korea continued throughout 1949.

1950 brought new nuances. On January 19, the Kremlin received an important message from Pyongyang. Soviet Ambassador Shtykov reported:

"In the evening V Chinese embassy during his Kim V connections with Ambassador Sen told me was receiving. Ir is the following: now that the liberation of China is being completed, the question of the liberation of on Korea is in the queue. The guerrillas will not decide reunification. Mao said Seung Man would advance, No I'm doing. Not I sleep at night thinking about the Lee Seung Man step on then you South But don't. If Lee have to cross Kim V counteroffensive. Il Sung, you Not comes... ask To him, need to visit the offensive to liberate South Kim Stalin And Korea's permission. Mao promised on Il Sung, meet him. personal report to Stalin of the North. Kim Il help, Kim Il Sung insisted on the South to and he, Sung was excited talking advance some intoxication 8 state" about permission on With V able And V .

Stalin was in no hurry to answer. Exchanged messages with Mao Zedong, who believed that the issue should be discussed. Only after that, on January 30, a cipher went from Moscow from Stalin to Pyongyang: "I received a message dated January 19, 50. Such a big deal needs to be prepared. The matter must be organized so that there is no big risk. Ready to accept ... 9" In Pyongyang the telegram was regarded as consent to the operation with

condition for guaranteed success. After another consultation with Beijing, on February 9, Stalin agreed to the preparation of a large-scale operation on the Korean Peninsula, approving Pyongyang's intention to unite the homeland by military means. Following this, deliveries from the USSR of tanks, artillery, small arms, ammunition, medicines, and oil increased sharply. At the headquarters of the North Korean army, with the participation of Soviet advisers, the development of

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offensive operation plan, there was an accelerated formation of several new Korean formations.

But Stalin, having given his consent to Kim Il Sung's campaign, still hesitated. He was afraid of US military intervention in the conflict between North and South Korea, which could lead to unpredictable consequences, and perhaps even to a direct confrontation between the two superpowers, which threatened a nuclear war. Therefore, in his opinion, Moscow had, on the one hand, to secure the consent of Beijing and support for the military actions of the DPRK to unify Korea, and on the other hand, to stay away from the impending conflict, if possible, in order to avoid the risk of being drawn into a war with the United States in the event of their interference in Korean affairs. The Kremlin was more and more inclined to think that Kim Il Sung's march to the south could be crowned with success if he acted energetically and quickly. In this case, the North Korean army will capture the southern part of Korea before the Americans intervene in the course of events . The position of the Americans, as it seemed to Moscow, gave hope that South Korea was not one

of the most important American strategic priorities in the Far East. Thus, on January 12, 1950, US Secretary of State D. Acheson declared that South Korea was not included in the US "defense perimeter" in the Pacific region. "My speech," he later recalled, "opened the green light for an attack on South Korea." Of course, this statement by Acheson was taken into account by the leaders of North Korea. However, another important document of the US government was not taken into account - and most likely they did not know about the atom. In March 1950, the US National Security Council issued a directive - NSC-68, which recommended that the government firmly contain communism throughout the world. The directive stated that the USSR was more inclined to engage in "patchwork aggression" than in an all-out war, and any failure by the United States in repelling such aggression could lead to a "vicious circle of taking too half-hearted and belated measures" and a gradual "loss of ground under forceful pressure" 12 .

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The US, the directive pointed out, must be ready to confront the USSR anywhere in the world, without making a distinction between "vital and peripheral interests"13. On September 30, 1950, US President G. Truman approved this directive, which radically changed the US approach to the defense of the South

Korea.

But all this became clear later. And then, on April 8, 1950, Kim Il Sung, Pak Hyun Yong and T. F. Shtykov secretly arrived in Moscow14. Kim Il Sung urged Stalin that Korea could be quickly unified through a short military campaign and that as soon as the DPRK troops entered South Korea, a nationwide uprising against the regime of Rhee Syngman would begin there. But Stalin still hesitated. He decided to once again consult with Mao Zedong to be sure of Chinese support for an attack on South Korea. On May 14, 1950, a cipher was sent from Stalin stating that, due to the changed international situation in Moscow, they agreed with the proposal of the Koreans to begin unification, but on the condition that the issue should be finally resolved by the Chinese and Korean comrades jointly, and in case of disagreement Chinese comrades, the solution of the question must be postponed until a new discussion .

Beijing quickly agreed to Moscow's proposal, preparations for the operation began to be carried out at an accelerated pace, and already on May 30, Shtykov reported to Moscow:

completed Sen reported that the Chief of the General Staff, Kim Il, had the development of a principled operational solution (together with Soviet adviser Vasiliev) with the offensive, approved him. Organizational on preparations Me, Apr 1 1 From offensive actions. More time for

sen, generals Vasiliev

ends To June. 10 7 divisions are ready for the July rains. Postyshev told me that

And concentration would then be required. The General

on Staff proposes to start

V

end of July. My opinion: you can agree With this period. Korean medicine. asking for gasoline And I ask for urgent instructions.

on May 30, 1950. Shtykov" [17].

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The answer followed quickly. The authority approved the ambassador's proposals, promising to expedite the delivery of medicines and oil. Intensified preparations by the North Korean side did not go unnoticed in the south. Troops were massing on both sides of the 38th parallel. Border skirmishes intensified. The Americans also stepped up. A few days before the start of the war, John F. Dulles, then State Department adviser, arrived in Seoul. He inspected South Korean troops around the 38th parallel and said that if they managed to hold out for at least two weeks after the outbreak of hostilities, "everything will go smoothly." "I attach great importance to the decisive role that your country can play in the great drama that is about to unfold," Dulles wrote to Syngman Rhee before leaving Seoul . Meanwhile, in the DPRK, preparations were being completed for the first large-scale offensive operation against the troops of Rhee Syngman. But it was very important for Stalin to take all measures to prevent the United States from accusing the

USSR of complicity in the North Korean aggression. He really did not want to be caught in

direct participation of the USSR in the preparation of the war. A number of documents testify to this.

Five days before the start of the war, on June 20, 1950, Shtykov sent a telegram to Stalin: “Kim Il Sung asked me to convey: ships are needed for the offensive and landing. Two ships arrived, but the crews did not have time to prepare. He asks ten Soviet advisers to use on ships. I think , the request must be granted. The answer, signed by A. A. Gromyko on June 22, came quickly: "Your proposal is being rejected. This gives rise to interference." Encouraged by the support of his great neighbors - the USSR and the PRC, Kim Il Sung ordered the invasion. At dawn on
June 25, 1950, the troops of the Korean People's Army (KPA) launched an offensive deep into the Republic of Korea. When the North Koreans developed an offensive to the South, Kim Il Sung asked to send Soviet advisers directly to the units fighting on the front line. Shty

kov, in a conversation with the Korean leader, promised that he would persuade Moscow to agree. There was a shout from the Kremlin.

"Pyongyang. Soviet

Ambassador. Apparently, you are behaving incorrectly, as you promised the Koreans to give advisers, but we weren't asked.

You need to remember that you are a representative of the USSR,
but not

Korea. Let our advisers go V front headquarters And V army as Pravda V civilian uniform of the V correspondents group in the required quantity. You will

personally answer to the Soviet government 19 so that they don’t get behind captured” .

As if to develop the meaning of this telegram, the Soviet military advisers to the battalions and regiments of the KPA were recalled to the USSR. The leaders of the

Soviet state did everything possible so that the citizens of the USSR could not fall into the hands of the enemy, especially the Americans. Thus, in the first days of the war, many Soviet people of Korean origin sent applications to the highest authorities with a request to send them to help the "Korean brothers" in protecting their historical homeland from the "barbaric attack from the imperialists"20. They were denied this. Soviet ships that left the Chinese port of Daylian on June 26 were ordered to sides of the American "immediately return to their defense zone"21 . When North Korean troops took Seoul on June 27 and the Soviet chief military adviser, General Vasiliev, wanted to go there to help the North Korean military command in

commanding troops, Moscow did not give him permission to do so. And in the future, everything was done to prevent capture

Soviet military advisers.

However, with the beginning of the war, despite the major successes of the North Korean troops, foreign policy events did not develop as expected in Pyongyang. Already from the first

days of the war there was an internationalization of the conflict as a result of the active intervention of the United States in it. American air force and navy operated from day one

war, but were used to evacuate American and South Korean citizens from the frontline areas. However, after the fall of Seoul, US ground forces landed on the Korean Peninsula. The US Air Force and Navy also launched active military operations against the troops of the DPRK.

In order to prevent the American participation in the war from being interpreted by the world community as interference in the internal affairs of Korea, the US political leadership took care to give the actions of its troops a legal character from the point of view of international law. On July 7, 1950, the UN Security Council (SC) met to discuss the Korean question. The USSR then boycotted his work in protest against the illegal presence of a Kuomintang member as a representative of China. This was not slow to take advantage of the United States, which put to a vote the question of transforming

US occupation forces in Korea into "UN troops". This action could have been prevented by using the right of veto, but the Soviet representative to the UN, Ya. A. Malik, on Moscow's instructions, left the meeting of the UN Security Council, which was a major miscalculation of Stalin's diplomacy. In addition to the United States, 15 more states were involved in the campaign against communism, although American troops, of course, formed the basis of the interventionist corps22 . The Korean War can be divided into 4 stages. First: June 25 - September 15, 1950 - the

offensive and general offensive of the KPA from the

line of the 38th parallel to the Naktong River. Second: September 16 - October 24, 1950 - the counteroffensive of the American and South Korean troops and

the forced withdrawal of the KPA from the line of the Naktong River to the northern regions. Third: October 25, 1950 - July 9, 1951 - the counteroffensive and general offensive of the KPA and the Chinese People's Volunteers (CPV), the

liberation of the territory of the DPRK and part of South Korea.

Fourth: July 10, 1951 - July 27, 1953 - confrontation between the parties at the turn of the 38th parallel. At the first stage, the US

troops managed to somewhat slow down the advance of the Korean People's Army, but it, albeit slowly, continued to move forward. The Syngman Li government was forced to flee to Busan, a city on the southeast coast, where by September 1950 only a small patch of territory remained in its hands.

By this time, the American command had prepared a powerful counterattack. On the Pusan-Tagu bridgehead against the 70,000th North Korean army, they were concentrated twice

large forces of American and South Korean troops, who also had multiple superiority in technology.

On September 15, after the 50,000th 10th Armored Corps landed from the sea near Inchon in the rear of the North Korean army, a counteroffensive of the American-South Korean troops began in the south. As a result, significant KPA forces were surrounded and, with heavy fighting, were forced to break through to the north, suffering heavy losses. Seoul had to leave.

At the 5th session of the UN General Assembly, the Americans achieved agreement to cross the 38th parallel. American and South Korean troops quickly moved north to the borders of the DPRK. There was a threat of defeat and loss of independence. It became clear that only immediate help from the USSR and the PRC could save the situation. This was understood in Moscow, and in Beijing, and in Pyongyang. With the outbreak of the war in Korea, the Chinese leadership sent its military observers to the DPRK on June
30, and in August concentrated a 250,000-strong group of Chinese troops in the area of the Sino-Korean border, near the Yalu River. Mao Zedong ordered Gao Gang, the leader of North China, to put her on alert by the end of September. On September 17, a group of PRC military specialists arrived in the DPRK to study the conditions for the introduction of Chinese troops if necessary .

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Meanwhile, American and South Korean troops, moving north, crossed the 38th parallel on October 1. On the same day, Shtykov sent a letter to Stalin from Kim Il Sung with a desperate request for help. The North Korean communist leader and his foreign minister wrote:

"[...] Dear Comrade Stalin! If the enemy is
to force offensive operations state we will suspend on north korea, That
We Not V on our own
enemy. Therefore, dear Joseph Vissarionovich, we are of special assistance to Not
Can Not from you. In other words, ask V
the moment the enemy troops cross the 38th parallel, we really need direct military
assistance from the side

Soviet Union. If for some reason this is impossible, the creation of That render
help us by China international voluntary units in other people's democracies to V
military And V provide
help our fight" [24].

On the same day, Mao Tse-tung received a similar letter. For Moscow and Beijing, the time has come for a decision. Stalin's worst fears came true: Kim Il Sung's plan did not work, the US intervention and the advance of the "UN troops" to the north confused all the cards of the Soviet and Chinese leadership. Pyongyang needed urgent help, but drawing the Soviet Union into the flaring conflict was by no means part of Stalin's plans. It was necessary to encourage the Chinese to do this, leaving the Soviet intervention as a last resort. Heavy thoughts seized the Kremlin politicians. And in this situation, a life-saving call came from Beijing. On October 2, Mao announced

the Soviet leader that the leadership of the PRC decided to assist the DPRK with formations of "volunteers" who were ready to enter North Korea on October 15. Mao announced that initially 5-6 divisions of "Chinese People's Volunteers" (CPV) would enter Korea, thereby showing the USA. that the situation has changed. After they, having received enough Soviet weapons, prepare, they can go on the offensive

nie. The Chinese leader also asked Stalin to help the Soviet air force and navy cover the Chinese troops in Korea and the industrial regions of North China .

Stalin, apparently, took this message with great relief. This is evidenced by his reply dated 5 October. It stated in particular:

“The United States, because of prestige, may be drawn into a war V big war,
will therefore be drawn into a war of mutual aid. It V China, the USSR, A together With topics
get involved V should be And which is bound by China by a pact With O
because together we will be stronger whether be afraid of it? In my opinion, England, Not follows,
than the United States, the capitalist European states can now provide the And others without Germany,
United States with any assistance that represents a serious military force. If war
United Not is inevitable, let it be now, Japanese militarism will be restored as an ally of the Not
States ... "
That A Not a few years later when
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Mao replied that he was "very glad that ... the answer refers to the joint struggle of China and the USSR against the Americans ... Of course, if you fight, then you need to fight now ... It is advisable to send not five or six divisions, but at least at least nine..." On October 8, Mao Zedong's envoys Zhou Enlai and Lin Biao arrived at Stalin's Sochi, where he was on vacation. The interview took place on the night of October 9th. The head of the Soviet state

somewhat moderated the appetites of the visitors. He stated that the USSR was ready to supply weapons for a total of 20 divisions of "Chinese volunteers", but did not have enough forces to cover the Chinese and Korean troops with aviation. He promised to provide air defense for the industry of North China and the areas bordering the DPRK, but all this will take time27 . In Beijing, “having received such an answer, they thought. Some members of the Politburo expressed fear that the PRC could be drawn into a long conflict with the United States, which would sharply slow down the industrialization of China that had begun. The uncertainty of the promises of Soviet assistance disappointed28 .

A string of meetings of the Politburo of the CPC Central Committee began on this issue. Time, however, hastened. "UN troops" confidently moved north. Finally, on October 14, members of the Politburo came to a unanimous opinion: to occupy the mountainous region between Pyongyang and Wonsan with troops. If the US troops do not cross this line within six months, then the "Chinese volunteers" will gain time in order to be ready to solve those

tasks that will be assigned to them by the leadership of the PRC. Peng Dehui was appointed commander of the "Chinese volunteers". But events developed

rapidly: the Americans were approaching the Chinese border and Pyongyang. Mao called Zhou Enlai in Moscow and said that the "Chinese volunteers" would enter the DPRK if the USSR immediately supplied weapons not to 6, as previously thought, but to 15 divisions of Chinese troops. However, Peng Dehui insistently requested that the invasion be postponed until winter, since the Chinese troops did not have aviation and anti-aircraft artillery, and the American Air Force dominated the air. But there was no more time. Mao ordered the introduction of "Chinese volunteers" into Korea, first on the 17th, then on the 18th, and finally on October 19th. On that day, the first units of the CPV crossed the Yalu River. Meanwhile, South Korean and American troops took Pyongyang on October 23, and on October

25 a huge mass of Chinese troops poured over the bridges across the Yalu into North Korea. The war has entered a new phase. The offensive was long, difficult, painful. The “volunteers” and the KPA countered the dominance of the enemy in the air with trench and gallery fighting, when entire companies, battalions and regiments burrowed into the ground so that neither bombs nor napalm could reach them. Since November 1950, the industrial facilities of Northern China, the bridges across the Yalu and the territory of the DPRK adjacent to
the border began to cover from the air the urgently formed Soviet 64th Fighter Air Corps, which operated successfully in the zone assigned to it. During

fighting in the winter and spring of 1951, Pyongyang was liberated, Seoul, Incheon, Wonju and other cities were taken again. The pendulum of war has swung the other way. However, then the attacks of the southerners followed, and by June 1951 the front line almost froze, tensing and barely hesitating at the 38th parallel. Mao's decision to

intervene in the Korean War was dictated by several considerations. He hoped that the victorious advance of the Chinese troops would raise the international prestige of revolutionary China; will show the world that the PRC is a force capable of stopping the Americans. There were other goals: to crush the opposition in the Politburo by success at the front, and also to prevent the United States from reaching China's land borders, which would pose a threat to China's national security. Mao believed that this war was a clash of wills. Knowing the sensitivity of Americans to human losses, he believed that, having lost 40-50 thousand people, the United States, under pressure from public opinion in the country, would stop the war. Seeing that his expectations were not being met, in March 1951 he raised the bar for American casualties to 100,000 . The failure of the spring-summer offensive of the KPA and the CPV convinced Mao that it was impossible to win the war and that it was necessary

to negotiate. He first expressed this idea on May 26, 1951, and on the 31st he already advised his colleagues in the Politburo to reassess the situation.

As for Stalin, realizing that it would not be possible to win the war, he supported the idea of negotiations, intending to achieve better peace conditions in the course of diplomatic clashes than on the battlefield. On June 3, 1951, negotiations on this issue were held between Kim Il Sung, Mao Zedong and Zhou Enlai, and in mid-June, Sino-Korean-Soviet negotiations took place. On June 23, the Soviet representative to the UN, Malik, officially proposed to start negotiations. This was preceded by informal meetings between Malik and J. Kennan on May 31 and June 5. Malik told him that the USSR wanted to
end the conflict, but advised him to contact the governments of the PRC about negotiations.

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and North Korea. The preliminary agreement allowed the Soviet representative to the UN to say in his June 23 statement "that the Soviet peoples believe that as a first step
it would be necessary to start negotiations between the warring parties on a ceasefire, on a truce with a mutual withdrawal of troops from the 38th parallel "31. This statement was also supported by China. On July 10, negotiations began in Kaesong (DPRK) between the Republic of Korea and the United States, on the one hand ", and the PRC and the DPRK - on the other. But the matter did not go further than the discussion of the demarcation line. Already in August, American planes and PRC planes violated the neutrality status of the negotiations zone, and they were interrupted. Then they resumed again in Panmenchzhon, however, they were interrupted more than once. As a result, the process of resolving the conflict dragged on for two years.All this time there were small skirmishes of ground units, but instead there was a fierce air war, in which the main role was played by American aviation and the Soviet 64th Fighter Air Corps.

2. Soviet pilots in the skies of North Korea

In the Korean War, which took on the character of an international conflict, the air forces of both sides played a significant role. US aviation was the main striking force of the "UN armed forces" that helped South Korea. She acted both at the front and on objects of the deep rear. Repulsing air strikes by the US Air Force and its allies has become one of the important tasks of the North Korean troops and Chinese volunteers throughout the war years. The US command concentrated in South Korea and adjacent areas most of its Air Force of the Far East zone, which by the beginning of the war had 1,172
aircraft32. The main forces of tactical aviation were combined into the 5th Air Force stationed in Japan, which included

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wings of tactical bombers, fighters, tactical fighters and reconnaissance aircraft. Strategic aviation was included in the specially created Provisional Bomber Command, numbering

several wings. In addition, in the Far East there were associations, formations and units of transport airborne, aircraft carrier aviation and air defense aviation, which were also involved in combat missions in the Korean War.

The South Korean Air Force existed in the form of a small number of T-6 training aircraft. At the beginning of the war, 44 squadrons of the US Air Force of the Far East zone (657 combat aircraft) were used against the DPRK, but during the course of the war these forces were steadily increased.

By the end of 1951, there were already 1,440 US combat aircraft operating against the KPA and CPV, and by the end of the war their number had increased to 240,033 .

US bomber aviation was armed with B-29 strategic bombers and B-26 tactical bombers;), and subsequently reinforced by jet fighter-interceptors, mainly F-86s, as well as F-94 night interceptors. Piston aircraft, according to their TTD, could reach speeds in the range of 570-740 km / h, had a practical ceiling of 7300-13,400 meters. strategic bombers was 5200-7300 kilometers with a bomb load of 9070 kilograms; bombers - 2100-2700 kilometers with a bomb load of 2700 kilograms; fighters - 2000-3800 kilometers (bomb load - up to 900 kilograms).

Range actions

tactical

Jet fighters had the following tactics technical data: maximum speed - 900-1080 km / h; practical ceiling - 13,500-14,000 meters;

maximum flight range - 2100-2400 kilometers.

All of them had small arms (6x12.7) and rocket (8x127; 10x127; 16x127) weapons. By the beginning of the war, the DPRK Air Force had a little more than 150 aircraft34 The KPA and CPV Air Forces were armed with Soviet-made aircraft: IL-10 attack aircraft, Yak-3, Yak-9, Yak-11, La-9, La-11 piston fighters, and with November 1950 - jet MIG 15 (later MIG-15bis). Combat operations by aviation of the belligerents began from the first days of the war and steadily expanded as military events developed. Already on June 25, 1950, at 13:15, two low-flying aircraft appeared over the South Korean airfields of Seoul and Kimpo. They were Yak-9s with North Korean Air Force markings (a red star in a white circle). Having made a thorough inspection of both airfields, they retired in a northerly direction. However, two hours later, the "yaks" returned in a reinforced composition. Two of them swept over Kimpo several times, spraying the airfield with cannon and machine-gun fire. The shells damaged the command

control tower and landed in the fuel storage, which flew into the air with a terrible roar. As a result of the raid, an American Air Force C-54 transport aircraft located at the airfield was also damaged. Four other "yaks" attacked the Seoul airfield. They damaged seven T-6 training aircraft. Then, at 1600, a new attack was made on Kimpo. This time, the attackers managed to burn the C054 aircraft damaged in the previous raid. In the middle of the day on June 27, five Yak-3s appeared over Seoul, approaching Kimpo. Three Yaks were shot down in combat with American F 82 jet fighters. On the same day, the North Korean Air Force attempted to storm the airfield with eight Il 10s. After a short air battle, four of these eight aircraft were shot down by F-80 jets, and the rest returned to their base in Heijo, near Pyongyang.

Although the forces were clearly unequal - US jet fighters, whose pilots also had, as a rule, experience of the 2nd World War, acted against North Korean piston aircraft, the North Korean pilots more than once managed to achieve success. For example, on June 28, at 13:30, taking advantage of the fact that the main forces of the F-80 and F-82 were busy providing cover for transport aircraft taking American citizens out of Korea, the Yak-9 four attacked the Suwon airfield. They managed to destroy one F-82 and a light bomber B-26, which were in the parking lot. A little later, by the middle of the same day, three pairs of "yaks" set fire to the C-54. The following day, the Suwon airfield was attacked six more times, but this time the F-80s were in the air and two North Korean aircraft were destroyed. On June 29, American B-26 bombers attacked North Korean airfields around Pyongyang and destroyed 25 aircraft. By this time, American aviation had already launched combat operations on a large scale. The main objects of strikes for strategic bombers were administrative, political and industrial centers, railway junctions and large bridges, airfields, power plants, and settlements. Tactical aviation operated against the KPA

troops in the area of concentration, communications and crossings, carried out the tasks of gaining air supremacy, isolating the combat area and preventing the approach of the KPA and CPV reserves.

Having air supremacy from the very beginning of the war, American aircraft could operate at considerable depth, delivering strikes simultaneously on a large number of targets. In the first months of the war, when the KPA Air Force

did not yet have jet fighters, and there was little anti-aircraft artillery, American aviation, including strategic aviation, operated from low and medium altitudes in the daytime without fighter cover. Yes, September 17

In October 1950, 100 V-29s heavily bombarded a concentration of KPA troops over an area of 70 square kilometers for 2 hours. 800 tons of bombs were dropped35. During that period, American bombers operated, as a rule, from one direction in large groups of 40-50 aircraft or carried out echeloned operations in close formations. The bombing was carried out from a height of 1.5-4.2 kilometers from a horizontal flight. Tactical aircraft attacked targets from a dive, making several approaches to the target from a height of 1-2.5 kilometers. The KPA Air Force, due to its small number, carried out mainly air defense of rear facilities, allocating only an insignificant number of fighters to cover the troops36 . The DPRK Air Force had two main tasks: combating enemy aircraft and supporting its ground forces. However, these tasks were hampered from the very beginning by the rapid deployment of American military aircraft in South Korea. After several massive American air raids on the base airfields
around Pyongyang, North Korean aviation switched to the tactics of the Soviet Air Force during the 2nd World War: the aircraft were dispersed on small, well-camouflaged runways located near the front line, from where they made unexpected sorties, operating mainly at low altitudes, - and immediately went back. These attacks continued throughout July. The time for them was chosen tactically very correctly: the DPRK fighters took off only when all the nearby American fighters finished combat patrols and they had just enough fuel left to return to base. On two occasions, F-80 jets, taken by surprise by North Korean piston aircraft, were forced to flee because they were too low on fuel to fight. Little by little, however, the offensive nature of North Korean air operations was fading away. By July 20, as a result of a series of 194

American air and naval strikes on the main North Korean airfields, including those captured during the offensive, destroyed 49 enemy aircraft on the ground, 9 in the air, and more than 30 aircraft were seriously damaged. In early August, as the main North Korean airfield, Suwon, was reduced to rubble by an American fighter-bomber raid, the main force of the North Korean air force was concentrated on the captured Kimpo airbase.

By the end of August, American aerial reconnaissance established that the strength of the North Korean Air Force was no more than 20 aircraft. Left without air cover, the North Korean ground forces could not resist the massed fighters.

raids enemy

bombers, which turned their formations and communications into a continuous fiery mess. They also had no protection from deep B-29 raids that destroyed industrial facilities of military importance in the north of the country. Still putting up stubborn resistance, but unable to contain the counteroffensive of the combined US-South Korean forces, North Korean troops began to withdraw from the occupied areas. In mid-October, the troops of the United States and South Korea were rapidly moving north, entered the territory of North Korea, but then the situation changed dramatically.

On November 1, a B-26 bomber was attacked by 3 Chinese Yak-9s south of the Yalu River. On the same day, but later, 9 F-80s attacked the Sinuiju airfield on the border with China and destroyed or seriously damaged 7 of the 15 "yaks" that were based there. One of the F-80s was shot down by anti-aircraft fire. In the afternoon of the same day,
a link of "Mustangs" (P-51), patrolling along the river, was suddenly attacked by 6 high-speed jets that appeared from Manchuria. This time, the Americans managed to get away, but they realized that from that moment on, the air war was no longer a pleasure trip. MIG 15 appeared in the sky of Korea . 195

Their appearance was dictated by a number of military-strategic reasons. After the "Chinese People's Volunteers" entered the war, formations of Chinese troops poured into North Korea in a wide stream. They crossed the border river Yalujiang along railway and road bridges, the largest of which were between the Chinese city of Andong and the Korean Sinuizhzhu. Then they followed the front line along the roads of the western part of the DPRK, the number of which was very limited. Since November 1950, these bridges and roads have become the primary targets of American air strikes. At the same time, B-29 strategic bombers in large
groups raided bridges across the Yala, operating under cover

F-80s and F-84s, and B-26 tactical bombers controlled the roads in Korea, especially at night, since the bulk of the Chinese troops moved along them only after dark.

The dominance of American aviation in the air created the danger of destroying strategic bridges and hampered the movement and maneuver of Chinese and North Korean troops in the frontal zone. In this regard, the Chinese and North Korean leadership turned to the government of the USSR with a request to attract Soviet jet fighter aircraft to cover strategic facilities in the DPRK, adjacent to China. Since the Soviet Air Force by that time already had MIG-15 jet fighters, which the aviation of the PRC and the DPRK were just mastering, only Soviet fighter air formations could carry out tasks to cover strategic objects in North Korea.

Responding to the request of the governments of the PRC and the DPRK, the Soviet Union sent fighter aviation formations to Northeast China, on the basis of which the 64th separate fighter air corps of the Soviet Air Force was formed on November 14, 1950 (corps commander Major General Aviation I. V. Belov) . The main task of the corps was to cover the strategic bridges across the Yalujiang from enemy air raids,

Suphun hydroelectric power station on the same river, a system of irrigation dams, communications and airfields on the territory of the DPRK within a radius of 75 kilometers from the Sino-Korean border. The composition

of the air corps was unstable. The Soviet command then could use only one airfield -

Andong on the Korean-Chinese border. It housed 2 regiments of the 28th and 151st air divisions of the SA Air Force. At the end of November, both divisions, together with the 5th division, were merged into the 64th Fighter Air Corps.

As hostilities intensified, the composition of the 64th Air Corps increased. In July 1951, a new airfield in China, Miaogou, was put into operation. This made it possible to increase the number of crews involved in combat operations from 2 to 5 air regiments and expand the range of tasks: to cover communications in North Korea at a depth of up to 75 kilometers from the Chinese border37 . In September 1951, for example, the 64th Fighter Air Corps included 3 aviation (151st, 303rd, 324th), 2 anti-aircraft artillery (87th and 92nd)

divisions, armed with 85-mm guns and 37 -millimeter automatic anti-aircraft installations, radar detection and gun guidance, and an aviation technical division, 2 separate regiments: "night lights", searchlight (to ensure the actions of crews at night and create a light field in the area of crossings across the Yalu River and on approaches to them) , hospitals and other units of providing services. In 1952, the corps numbered about 26 thousand people. This number of personnel was maintained until the end of the war in Korea. However, the indicated number of forces and means was far from corresponding to the tasks that Soviet pilots and anti-aircraft gunners were supposed to solve. Only half of the divisions had three regiments. The rest are two. According to the state, they were supposed to have

only 32 pilots each. The same unenviable situation exists for

anti-aircraft gunners.

Despite these and many other shortcomings and omissions, Soviet aviators acted quite successfully.

This was largely facilitated by the high flight performance of the latest jet fighter jet MIG-15 and its next modification MIG-15bis. The MIG-15 was superior in its main characteristics to similar enemy aircraft, with the exception of the F-86. By

Compared to it, the "Mig" had the best rate of climb and thrust-to-weight ratio, but was somewhat inferior in maneuverability and range. Their maximum flight speeds were approximately equal. The axial engine provided the F-86 with a better aerodynamic fuselage shape. The fighter picked up speed faster when diving, and had a smaller “drawdown” than the MIG-15 when withdrawing from a dive. The armament of the MIG-15 was more powerful and consisted of two 23 mm and

one 37 mm well-placed guns. US fighters and fighter bombers each had 6 heavy machine guns - 12.7 mm Colt Browning, significantly spaced along the wing. A notable advantage of the F-86 was better sighting equipment, especially a radio range finder that automatically corrected for range. On the MIG-15, the distance to the target was determined visually and the data was entered into the semi-automatic sight manually.

Both Soviet and American fighters were modernized during the fighting. So, since April 1951, MiGs began to be equipped with VK-1 engines with greater thrust. The aircraft was named MIG-15bis. The ejection seats were equipped with parachute opening machines at a predetermined height. Subsequently, the MIG-15bis were equipped with special equipment that provided the pilot with the necessary information about the air enemy. The management of the regiments and divisions of the aviation corps was strictly centralized. This was dictated by the need to
quickly concentrate the maximum possible forces of Soviet fighters to repel massive enemy air raids, which had

significant numerical superiority, combat and operational initiative, a lot of time to prepare and organize air raids.

The command post (CP) of the corps had much more information about the enemy than the command post of air formations, and had two auxiliary control posts (APU) on the territory of the DPRK. They were equipped with locators and radio stations, which were staffed by experienced officers who were able to point the MIG-15 at a visually observed enemy, as well as warn their pilots of possible dangers. All this made the control of the actions of fighter aviation from the command post of the corps quite effective. The TLUs were located in the area of crossings near Anshu (Anchzhu) and Pyongyang. The command post of the 64th Fighter Air Corps (JAC) was located near Andong. In order to respond as quickly as possible to enemy actions, a significant part of the fighters in the divisions participating in the hostilities were in a state of high combat

readiness: the pilots were on duty in the cockpits of the aircraft with their radios turned on. The order to take off was transmitted by radio directly to the commanders on duty

groups, and the rest of the forces were on high alert or immediately took off after the duty units. All combat commands were transmitted by radio. Wired communication was used only as a backup between the command post and the headquarters of the formations. Combat missions were set when the fighters were already in the air.

They were refined and even radically changed as the general air situation became clearer and more specific data about the enemy's intentions were obtained. With the appearance of Soviet jet aircraft in the skies of North Korea, the air war took on a completely different character.
On November 6, the US Joint Chiefs of Staff decided to proceed with the destruction of the bridges across the Yalu, through which parts of Chinese volunteers were transported to North Korea.

It was about two bridges of strategic importance connecting the cities of Andong (PRC) and Sinuijzhu (DPRK). These bridges were up to 1200 meters long. One of them was a combined railway and road bridge, the other was a double-track railway. At that time, the seat of the government of the DPRK was located in Sinuiju. On November 8, 1950, 70 B-29s dropped 584 tons of bombs on Sinuiju. The strategic air raid was preceded by assault strikes on North Korean air defense facilities in the Sinuijju area by F-80 (Shooting Star) jet fighters and P-51 (Mustang) piston fighters38. Soviet MIG-15s from the Andong airfield entered the battle with them. It was the first dogfight between jet fighters in history. Soviet pilots had superiority in military equipment, American pilots (almost all participants in World War II and previous operations in Korea) in experience. While the Soviet fighters were locked in action over Sinuichu, 9 V-29s went to the area of the bridges and dropped 1000-pound bombs on them. Anti-aircraft artillery, which was defending the city and bridges, was not able to hit B 29, since they operated at an altitude of 6-7 thousand meters inaccessible to it and, having dense battle formations, were over the target for a few minutes. But the efforts of the anti-aircraft gunners were not in vain: their fire created a nervous atmosphere for the American pilots. As a result, the accuracy of the bombing was extremely low: the bridges were not damaged - only part of the access roads were destroyed39. On this day, both sides suffered their first losses: the 64th Air Corps lost 1 MiG-15, but Soviet fighters shot down 1 V-29, a strategic reconnaissance aircraft. Thus began the Soviet-American air battles in the Korean sky. During the next week, intense air battles took place over the Yalu River. Taking advantage of the fact that the pilots of the US-South Korean Air Force were forbidden to cross the border along the Yalu River, the MiGs gained altitude over the territory of Manchuria and, diving across the river at maximum speed, tied

short air battles, after which they quickly retreated back to Manchu territory to repeat the entire maneuver
at first.

Air battles in the Yalu region revealed many problems for both belligerents. In an order dated November 6, 1950, the commander of the US Air Force in the Far East, General Streitmeyer, demanded the destruction of 6 strategic bridges across the Yalu River and 10 North Korean border bridges. bridge at Manpojin - road and rail. These objects were the main targets for strategic aviation. Tactical cities. bombers and naval aviation were supposed to destroy bridges of secondary importance on the territory of the DPRK. However, the fulfillment of these tasks was difficult. The anti-aircraft fire of the air defense systems that defended the bridges forced the strategic bombers to bomb from heights of more than 6-7 thousand meters, which significantly reduced the accuracy of the hit, and

the actions of the Soviet "MiGs" forced the bombers to stay in the target area for a minimum amount of time, which made it difficult to aim. Naval aviation attempted to strike the bridges from a dive, but this only resulted in a few hits on the road bridge near Sinuiju, but did not incapacitate. Other bridges were also slightly damaged. In addition, since mid-November, the Yalu River has been frozen over for a long distance, along which it was possible to transport even heavy equipment to North Korea using temporary crossings. From mid-November 1950, air bombing attacks on strategic bridges were carried out by ever larger groups of B-29s: on November 14 - 9 aircraft, on the 15th - on the 21st, on the 24th and 26th - strategic bombers from the 3 bomber groups operated on the bridges (19th, 98th and 307th). Managed to damage two 201

a span of a bridge at Hongsongjin and one span of a bridge at Manpojin, with 2 B-29s hit by Soviet fighters40 . Thus, in November, the tasks of the US Air Force to destroy bridges

AND suspend the flow of reserves from China to North Korea were not completed. For the first time since the start of the war, US Air Force air supremacy was called into question. The MIG-15s in all respects were significantly superior to the opposing American aircraft, and only thanks to the higher skill of the American pilots did they manage to avoid heavy losses. In addition, at the beginning of 1951, Soviet radar specialists set up a system for guiding fighters from the ground, which allowed MiGs to further increase the effectiveness of their combat use.

However, for Soviet air units and ground-based air defense systems, despite the successful start of combat missions, the situation was very difficult and was largely unfavorable. Soviet air regiments were brought into battle sequentially. The number of fighters increased as the air situation became more difficult. In the first months of air battles, no more than 50-60 combat-ready crews operated from the Andong airfield41. The enemy had not only attacks

superiority V means air
(strategic aviation, carrier-based bombers and fighter-interceptors), but also in the technical equipment of their Air Force: jamming aircraft, all-weather F-94 night fighters with on-board radars. The Americans used a widely branched and well-equipped airfield network in South Korea, Japan and the Pacific Islands, and had great opportunities to create comfortable, sustaining strength and vigor living conditions for Air Force personnel participating in hostilities. The American command had a significant reserve of pilots. Unlike the Americans, Soviet pilots did not have the appropriate living conditions. Officers and soldiers

lived in military camps, in old one-, three-story former Japanese barracks. The buildings were very rundown and in need of repair. Some of them did not have running water, sewerage or even lighting. Food was prepared and brought to the barracks by the Chinese. Soviet military personnel wore the uniform of the Chinese People's Army without insignia. Duty at airfields, sorties on combat missions 2-3 times a day, had a severe effect on the physical condition of the pilots. The position of the defending side obliged the Soviet pilots to be on duty in the cockpits of fighters for a long time, waiting for a flight. In a hot and humid climate, this turned into real torture. After takeoff, while climbing and operating at high speeds and altitudes, the MIG-15 crews experienced huge overloads. They did not have, like the Americans, a high-altitude compensating suit, but used KM-1642 oxygen masks .

The mountainous terrain severely limited the ability of radar stations to detect and track aircraft. Therefore, the command of the Soviet fighter aviation had to make decisions in a difficult situation in the shortest possible time. In this regard, it was not always possible to intercept the target on time, in the optimal battle formation and at the most advantageous height. In addition, Soviet aviation in the front line experienced an acute shortage of airfields. Considerable difficulties also arose because of the need to maintain secrecy, since the Soviet command took all measures to hide the participation of the Soviet Air Force in
the Korean War and not give the United States evidence that

Soviet-made MIG-15 fighters (which was not a secret) are piloted by Soviet pilots. To this end, the MIG-15 aircraft had identification marks of the Chinese Air Force, it was forbidden to operate over the Yellow Sea and pursue enemy aircraft south of the Pyongyang-Wonsan line (that is, up to 39 ° north latitude, although the front in 1951 stabilized along the 38th parallel). The last circumstance the Americans skillfully 203

used. Air battles were conducted by them mainly near the sea coast. Once in an unfavorable situation for themselves, they quickly retreated towards the sea and from there, choosing a convenient moment and taking the required height, they could again engage in battle or retreat without interference. The Andong airfield, despite a special UN decision prohibiting crossing the PRC border, was constantly under the influence of enemy fighters attacking Soviet aircraft during takeoff and landing.

Despite all the difficulties that complicated the combat use of the fighters of the 64th Air Corps, the introduction of Soviet jet fighters into combat operations immediately changed the general air situation in Korea. The very first air battles against the B-29 showed the great vulnerability of this bomber. The effectiveness of the action of 23 mm and 37 mm shells was very high. A relatively small number of hits led to the destruction of the aircraft. Could not ensure the safety of the B-29 and numerous detachments of American fighters, allocated to the direct protection of battle formations, as well as curtains or barriers for the early interception of MIG-15s on distant approaches. The pilots of the 64th Air Corps had many encounters with the B-29, and each of them ended in heavy losses for the enemy, which cost a lot for the painfully sharp four-engine bomber. In addition, 10-12 crew members often died along with the aircraft. Of course, the guns of the Soviet fighters did not yet guarantee them success in battle. Strategic bombers had their own strong defensive armament, which consisted of several twin

perceived them, because the

12.7mm installations

of heavy machine guns, constantly accompanied by fighters. Victory was achieved by the right choice of tactics appropriate to the situation, good organization and precise control of air combat, and the high individual skill of Soviet pilots. 204

The combat formation of the American attacking aviation consisted of B-29 piston bombers, which had low speed and followed in close combat formations (420-450 km / h), and their fighter cover - F-80 and F-84 jet fighters. The latter were also forced to fly at the minimum for jet aircraft

speed (650-700 km / h), so as not to break away from the "super-fortresses". This did not allow cover fighters to gain the necessary speed for air combat with the sudden appearance of MiGs, and even with such an aircraft superior to them in terms of flight performance as the MIG-15.

Having established this important fact, the command of the 64th Air Corps developed an effective tactic for combating the air enemy. "Migs" were instructed, using the advantage in flight altitudes and speed, to operate large fighters, giving them independence. The main task was, without getting involved in a battle with quantity steam cover fighters, to "cut through" the battle formation of the F-80 and F-84 at high speed and attack directly the B-29. This tactic has been successful. As the Americans admitted, the jet fighters of the cover, following the close formation over the battle formation of the bombers, did not ensure their safety. By the end of November, the combat effectiveness of bomber aircraft had declined. The command of the US Air Force in the Far East was faced with the problem of reliable protection of the B-29 and B-26 bombers during attacks on strategic targets in the Yalu River area. In December 1950, the first attempt was made to oppose the MIG-15 aircraft of an equal class: from the United States to Korea, through Japan, the 4th wing of interceptor fighters, equipped with F-86A fighters ("saber"), was hastily transferred. In the very first flight to freely search for the enemy on December 17, in the area of the Yalu River, the Sabram managed to shoot down a MiG-15. This "moment" was one of four fighters that attacked the F-86A, mistaking them for the F-80.

The command of the 64th Corps realized that the enemy had a fighter-interceptor that was not inferior to the MIG-15 in terms of its combat qualities. It was necessary to study the tactical and technical characteristics of the new enemy fighter and the tactics that the air enemy would now use in order to oppose him with his tactical methods of conducting air battles.

3. "Alley of moments"

Already in December 1950, it became clear that the Saber was a serious enemy. But the first air battles also revealed vulnerabilities in the use of the new American interceptor fighter. F-86s, taking off from the airfields of South Korea, had to cover a considerable distance before arriving in the area of a likely meeting with MiGs. In order to extend the patrol time in the so-called "alley of flashes" (the area bounded by the Yalu River, the Yellow Sea and the Hichhon-Anchzhu line), the "sabers" were forced to operate at low speeds. This made it difficult to timely climb and

speed for attacking when "flashes" appeared, which put them at a clearly disadvantageous position. Soviet pilots quickly learned to use their tactical advantage: they attacked the "sabers" from above at speeds close to sonic, and managed to get away before the pilots of the "sabers" managed to develop the speed necessary for a retaliatory strike. In search of a tactical solution to this problem, American pilots, in order to increase the speed of combat patrols, decided to reduce its duration. Instead of 1 link per mission with an interval of 5 minutes, 4 links of "sabres" flew out in succession. Air battles were fought with varying success. Both sides mastered the tactics of confrontation. But in the battle on December 30, in which 36 MiGs fought against 16 Sabers, Soviet pilots destroyed and damaged 7 enemy aircraft without losing a single one of their own44. It was an excellent result. 206

In January-February 1951, encounters between Migs and Sabers were rare, since the F-86s were in Japan for a preventive examination after the first air battles. This was a forced step, caused by shortcomings in the material support of the new fighters. The absence of modern fighter-interceptors affected the air situation. Soviet aviation operated successfully against bombers and jet fighters of the F-80, F-84 type, and naval aircraft. However, the experience of combat operations by pilots at the end of 1950 showed that in order to achieve sustainable success in the fight against American fighter-bombers, it is necessary to know more about the enemy, create a coherent system for obtaining intelligence data, improve the combat skills of pilots and the ability of ground services, and improve group tactics. air combat. All these tasks required the fastest solution.

th corps And

Soviet fighters solved combat missions in two ways: air patrols and duty at the airfield. But not having reliable information about the take-off of enemy aircraft, the pilots were forced to sit in aircraft for hours waiting for a signal to take off or patrol in areas of a possible meeting with the enemy, getting tired in flight, consuming a lot of fuel with limited motor resources. This was further complicated by the fact that the command and divisions of the 64th Air Corps did not have any preliminary information about the proposed actions of the enemy. It was necessary to urgently take measures to improve intelligence of all kinds. To conduct reconnaissance and detect an air enemy, the 64th Corps had a radar network for detecting and targeting targets, which included several types of radars and radio stations; artillery radar stations of all-round visibility and gun guidance, as well as radio receivers with quartz devices, which made it possible to listen to the radio communications of enemy crews.

Within a short time, it was possible to establish that the 4th wing of the F-86 fighters, deployed in December 1950 from the United States, is stationed at the Kimpo airbase (South Korea). This made it possible to determine the range, since Kimpo was about 400 kilometers away from Andun. Now it is possible to calculate the time spent by a fighter in the air. From interrogations of captured American pilots, it was possible to find out that the range of the F-86A was 930 kilometers. It became possible to calculate the time spent by this fighter in the air. Calculations have shown that the "saber" at the optimum speed to the patrol zone can be in it for no more than 15-20 minutes. During this time, he could carry out one or three attacks, and for more he did not have enough fuel, taking into account the flight to his base. Air and electronic reconnaissance confirmed that the Americans, having ceased to save fuel, appeared in the zone

patrols at high speeds and altitudes (approximately 1000 km / h at an altitude of 9-11 thousand meters). But this reduced the time they spent in the patrol zone to 20 minutes. The command of the 64th Air Corps immediately took advantage of this. Soviet pilots began to reach targets in the last 10 minutes of the F-96's stay in the "alley of moments", when they could no longer afford to get involved in battle for fear of using up a lot of fuel and not reaching their airfield, and went towards the Yellow Sea .

For electronic reconnaissance of the enemy, a special Pyramid system was transferred to the corps. In principle, it was intended for enemy radio systems, but in the special divisions of the For productions active interference corps there was only a receiving part of it, which allowed only reconnaissance. There were no transmitters to create interference. In conditions of intense radio interference, it was very difficult for radars of all types to control the combat operations of fighters. In these cases, they

used the fragmentary information that they still managed to remove from the radar screens; Auxiliary Command Posts (ATP) reports

about visually observed enemy aircraft; received signals from the on-board panoramic sights, which were often used by bomber crews for navigation; data contained in the tapped radio communications of the pilots.

All this information was clearly not enough to reliably repel bomber raids and successfully fight enemy fighters. It was necessary to have data on the base airfields of enemy aircraft, the number of aircraft, their technical characteristics, navigation equipment, radar sights, bombing equipment and the patrol system, etc.

To establish radio intelligence and study captured documents in March 1951, a group of officers who spoke English was sent to the corps by the General Staff, among whom was the author of these lines. All the officers of our group knew the language quite well and had some knowledge in the field of intelligence.

The first task of the reconnaissance group after arriving in Andong was to obtain intelligence on the F-86 fighters. It was necessary to identify home airfields, call signs of units, the composition and operation of radio networks for various purposes associated with the use of F-86 fighters. It was also necessary, in cooperation with other types of intelligence, to obtain information on certain issues related to the activities of the American strategic and tactical aviation that operated in Korea. In order to increase the effectiveness of the fight against "sabers", it was necessary to set the time for the take-off of enemy aircraft from their airfields. It was possible to find out the call signs of the air
units operating on the objects of North-West Korea. For example, the 4th air wing had the call sign "Tit" (the call sign F-84 of the 51st wing was "Robin". This helped to detect by means of radio reconnaissance the moment of departure of American aircraft on a combat mission, and sometimes to determine the number

tomtit),

(robbins).

aircraft. 209

As the combat aviation groupings of the belligerents grew, the scope and intensity of the air battles in the spring of 1951 increased the number of questions to which intelligence provided answers. For example, on the F-86, a radar sight with a rangefinder that allows you to determine the distance to the target, which

on the MIG-15 was determined visually. Then, the American pilots were dressed in special anti-g suits that helped them withstand heavy overloads. In an environment where, in the course of air combat, pilots had to drastically change altitudes - from 10-12 thousand to 200-100 meters, such a suit reduced the effect of overload on the body, which created better conditions for combat. It was also important to know the organization of the rescue of the pilot after his

ejection, the pilot's equipment in the event of a forced landing or landing after an ejection, etc. Such data could not be established by the available technical means. The downed planes, as a rule, exploded when they hit the ground, and their equipment could not be studied, the downed ones went towards the sea, where the rescue service, perfectly organized by the Americans, picked up the pilots.

The necessary information could only be obtained through captured American pilots or captured
undamaged equipment and documentation from aircraft. But prisoners of war were kept in camps on the territory of the DPRK, and Soviet aviators did not have access to them. At the beginning of May 1951, in agreement with the command of the KPA, two Soviet officers with knowledge of

English, one of them was the author of these lines. Our task was to obtain information of interest to the command of the 64th Air Corps about US aircraft operating in the Korean War, primarily about Sabers. Getting to Pyongyang, near which the KPA command post was located, was not easy.
During the day, it was impossible to move along Korean roads: they were controlled from the air by F-80 fighter-bombers

and F-84. All movement took place at night. The mountain roads were clogged with Chinese troops moving in vehicles and on foot towards the front. Blackout was strictly observed, as B-26 night bombers were constantly buzzing over the road, and any flash of headlights caused a series of bomb explosions dropped from bombers. Nevertheless, we got there, in general, safely, except that we were bombed twice and in one of them my colleague was slightly wounded. The military camp, where the command post and headquarters of the KPA was located, was located in a valley bordered by low, forested mountains. Fanzas (chibis) were scattered along

the valley, bomb shelters were equipped on the slopes of the mountains. We lived in one of the many chibis.

The work was organized like this. Under the guidance of Colonel A. V. Petrachev, the adviser on aviation at the KPA Headquarters, we compiled questions in English and through North Korean officers (KPA intelligence chief Li Soksim supervised this work on behalf of the KPA) handed over to the camp administrations for written answers. The same question was asked to several captured pilots at the same time,

so that you can compare the answers received, choose the most accurate and draw up a qualified certificate. Sometimes written responses were accompanied by drawings or diagrams. Sometimes it was necessary to ask the same questions a second time in order to more accurately establish the information that was of interest to Soviet aviators. Direct contacts with American pilots were rare - only in emergency cases, to urgently clarify any details important to us or controversial interpretations of written answers.

Through captured American pilots, it was possible to find out a lot of various kinds of information important for the combat operations of the 64th Air Corps - in particular, it was found that the F-86 was equipped with a K-18 ("Mark-18") gyroscopic automatic sight with a radar rangefinder. resolution was

limited and did not allow for sufficiently accurate aimed fire at a target at a speed of more than 650 km / h. The armament of the aircraft consisted of 6 machine guns of 12.7 mm caliber, the rate of fire of which exceeded the rate of fire of 23 mm and 37 mm guns mounted on

MIG-15. A description of the pilots' anti-g suit was also compiled, and later they managed to get samples of the Mark-18 sight and a high-altitude compensating suit. The performance characteristics of the F-86A and F 86E were clarified. The received information about the emergency equipment of

American pilots contained a lot of interesting things. Pilots who ejected from downed planes had every reason to be rescued, because the rescue service, especially in the Yellow Sea, was not only well organized, but also well equipped. The pilots had elaborate emergency equipment. Each had a portable automatic radio beacon that served as a homing radio for an aircraft or rescue helicopter. The set of equipment included a special mirror, with the help of which the person in distress signaled his whereabouts.

In order to successfully combat massive American air raids, the command of the 64th Air Corps sought to organize combat work in such a way that MIG-15 fighters could intercept enemy bombers as far as possible from the the approach of an air enemy to the object of attack. This was facilitated by radar stations (radar stations) from the Hakusen areas near Anzhu and Futsiori northwest of Pyongyang, where there were auxiliary command posts of the 64th Corps, and also by the Chinese Lida radar. The detection range of these radars made it possible to successfully operate against American aircraft during their raids on the bridges across the Yalu in the Andong region, but did not provide the information necessary to cover the airfields near Pyongyang and communications leading to it.

Since the main method of combat use of MiGs was sorties to intercept aircraft on duty at the airfield, in order to attack the enemy with a squadron at a turn of about 40 kilometers from Andong at an altitude of 8-9 thousand meters, it was necessary to detect a target at a distance of not less than 200 kilometers (for departures of two or more squadrons - for 220-240 kilometers). But in the conditions of mountainous terrain and a lack of locators, vast areas and directions were not visible by the radio engineering parts of the corps, and strong enemy radio interference reduced the already limited capabilities in the timely detection of aircraft, determining the directions of their flight and probable objects that would be hit.

And in order to carry out combat missions in the Pyongyang region, it was necessary to keep our fighters in the "air watch" position. It was very difficult to provide a constant patrol regime. In addition, when covering the Supkhun hydroelectric power station on the Yalu River, the maximum enemy detection capabilities did not exceed 150-180 kilometers, which further complicated the task of timely interception

American aircraft45 . All this in
the first months of 1951 affected the combat reactive RB-45, the results.
reconnaissance aircraft operating at speeds of 800-900
km / h at altitudes of 9-10 thousand meters managed to complete
their task before the MiGs could take off and gain the required altitude for the attack. And the task of the "MiGs" was to prevent the conduct of aerial reconnaissance by the enemy, and even more so the actions of strike groups of his strategic and tactical aviation. In such an environment, experience, as well as good operational and tactical training of commanders, played a huge role in making the right decisions. Analysis of even very limited data on the air situation, assessment of the nature and objects of aerial reconnaissance, which was carried out by the enemy on the eve of the next day of hostilities, own reconnaissance of the work of the enemy's onboard panoramic sights, radio communications 213

ry, other indirect data allowed an experienced commander to make a fairly correct (although not always the only correct) decision in a short time.

In the daytime, the commander of the air corps usually led the combat operations from the command post (CP), and in the dark, one of his deputies. The guidance of fighters on single aircraft and groups of the enemy was carried out by the course method in combination with the information method: at first, guidance was carried out by the course method, and when approaching American aircraft, by the information method. The second method suited the commanders of fighter groups that had gained altitude more, since in the air the commander could better determine the position of his group, decide on a maneuver, take an advantageous position for an attack, etc. At the same time, monitoring the position of groups of his aircraft from the command post even with intense interference created by the enemy, it was solved quite successfully, since after turning on the SCH (friend or foe) and Beda (distress) systems on board the MIG-15, these signals were clearly visible against the background of interference on the screens of ground-based radio interrogators. In addition, the pilots' reports on the air situation and its changes were widely used, since the enemy did not interfere with VHF communications. In general, in the field of radio electronics, Soviet air connections lagged far behind the American ones.

The command of the 64th Air Corps did not have the means to actively combat enemy electronic devices and maintain the stability of the control system of their fighters in the face of interference. The Americans, on the other hand, had a widely ramified network of radar

stations located on the territory of the Korean Peninsula they controlled, coastal islands and naval ships; radio-technical navigation and bombing system "Shoran"*; big

* Shoran - short-range avia navigations - a network of ground radio stations in a limited area, the emitted signals of which determine the coordinates of aircraft in the air. 214

a set of various electronic equipment installed on them. Airfields are equipped with
airplanes. radio lighting systems, which made it possible to produce were

flights in adverse weather conditions and at night. On board the aircraft used in
quality directors
jamming, transmitters were installed that created barrage and directional interference, as well as passive jamming machines for dropping chaff. The bombers had on-board panoramic radar sights, and the fighters had radio rangefinders that automatically entered data into rifle sights. The Americans also had one squadron of all-weather F-94s with radar guns to fight Soviet night fighters. All aircraft were equipped with 8-channel VHF radios, bombers - and long-range radios operating in other frequency bands.

A

The lack of appropriate electronic means did not allow the Soviet command to conduct electronic warfare. Even with information from their radio and electronic intelligence, the Soviet Air Force in Korea could not fully use it to increase the effectiveness of military operations. Although the location of the ground stations of the Shoran system was known, and after three or four notches of the detected targets, Soviet specialists accurately calculated the orbit of the bombers, the lack of onboard radar sights did not allow the pilots, even brought to the target,

find it in the clouds or at night, except by chance. When it became known about the radio rangefinders in the sights of fighters, there was nothing to interfere with them. Therefore, the Periscope radio stations were installed on the MIG-15bis - to monitor the rear hemisphere and the Sirena tail protection equipment, which gave a sound signal to the pilot that the aircraft was irradiated with a radio range finder of the sight. To protect against American radio intelligence, the most important commands were
transmitted in coded sig 215

cash. The codes changed frequently. To simplify the radio exchange, plates of coded signals and their meanings were pasted on the dashboards of the MIG-15. In the spring of 1951, as a rule, two air

regiments of the 324th Fighter Aviation Division were on combat duty at the Andong airfield. It was commanded by the famous Soviet pilot three times Hero of the Soviet Union I. N. Kozhedub. Our reconnaissance group was under his command. The regiments were transferred on duty by the day. One squadron was in readiness No. 1 (takeoff in 2-4 minutes), the other two were in readiness No. 2 (6-8 minutes). At the end of May, another regiment of the 303rd Air Division went on duty. The duty scheme has changed somewhat: the flight crew of one regiment was completely at the aircraft,

having one squadron in readiness No. 1, two in readiness No. 2; the second regiment had one squadron at readiness No. 2, the rest at readiness No. 3; the entire third regiment was in readiness No. 3 (12-14 minutes). To intercept single aircraft or small

groups of an air enemy, a detachment of forces of the squadron, which was at readiness No. 1, flew out at the discretion of the regiment (division) commander. Against large American bombers and fighters, the duty regiment took off all the duty aircraft at the same time in order to save time in collecting and building up battle formation. The takeoff was made in pairs. This made it possible to reduce the collection time from 12–15 minutes to 5–4 minutes46 . The tactics of subsequent actions looked something like this: the MiGs formed four groups: cover, two strikes, and a reserve. The covering group, consisting of 1-2 squadrons, was supposed
to occupy an echelon superior to the enemy in height, go to the area of \u200b\u200bthe likely route of American bombers, pin down the actions of enemy fighters with separate attacks from an advantageous position and impose a battle on them. The task of the first strike group (2-3 squadrons) was to destroy the bombers that made up the lead group. The second strike group (2-3 squadrons) was supposed to increase

strike of the first group, to destroy new groups of bombers approaching the battle area. The reserve (1 squadron) had the task of increasing the composition of the forces of the strike groups and the cover group, and covering the landings of their fighters47. Such tactics made it possible to develop possible options for the upcoming battle even on the ground, to reduce radio communications to a minimum and facilitate the control of units in the air. But the enemy also improved the tactics of both bombers and fighters. Already at the

beginning of 1951, the US Air Force Command in the Far East developed a plan for the bombing of strategic targets behind enemy lines. North Korea was divided into 11 zones with 172 targets: 45 rail and 12 road bridges, 13 tunnels, 39 rail junctions, and 63 supply centers. The most important zones were considered "A" - the Andong region, Sinuizhzhu, "B" - the approaches to Manpojin and "C" - the Pyongyang region. Both B-29s and B-26s, F-80s, and F-84s operated against facilities in these zones. Naval aviation aircraft of the 7th Fleet were responsible for strikes against enemy communications in zones "F", "G", "H" from the Sea of Japan, from the borders of the USSR to Wonsan. Strategic aviation was responsible for putting out of action 60 bridges, 39 railway junctions and 35 supply and communications centers. On average, 12-24 V-29s flew out to bomb these targets per day. But if, before the MIG-15s entered combat operations, the bombers acted with impunity, they could deliver bombing strikes from 300 meters and make several visits to the target (it was believed that for the complete destruction of the bridge it was required

13.3 bombing strikes), then with the advent of "migs" (the Americans coded them as "bassoon") and Soviet anti-aircraft artillery, the tactics of the bombers changed. The bombardment was carried out from an altitude
of 7000 meters, and it was rarely possible to make more than one approach to the target49. This required an increase in the power of bombs dropped on targets. 2000-4000-pound bombs began to be used

instead of 1000 pounds (1950). The battle lines have also changed. Instead of large groups, bombers began to operate in fours across bridges, using conventional 2000-pound bombs or 1000-pound, but radio-controlled - "razon" (The latter were used back in the years of World War II, and in 1950, after tests, the razon). accuracy of their hit was brought to up to 67 percent, and later even up to 96 percent.15 bridges were destroyed in this way, but 4 such bombs were required to disable one bridge. the same radio control system, but with increased charge power to 12,000 pounds.However, out of 10 Tarzon bombs, only one accurately hit the target.In early 1951, the effectiveness of these bombs increased: on January 13, with its help, two spans of the bridge in Kang were destroyed with its help , in the following months the number of successful hits (tarzon) increased.The Tarzon bomb was usually carried by one B-29 from the first or second flight (4 aircraft) participating in the air raid. The use of radio-controlled bombs of increased power and accuracy of destruction complicated the task of Soviet fighters to intercept targets. It was necessary either to hit the carrier aircraft on the outskirts of the target (which was practically unlikely, since the only sign of its movement

there was increased cover by the fighters of the entire group), or to disrupt the combat formations of the attacking enemy aircraft and prevent the B-29 from conducting targeted bombing. The Americans, in their
turn, also took measures to counter the Soviet interceptors with reliable cover for their bombers and not to give the MiGs the opportunity to interfere with the combat missions of American aviation. The fighter cover forces were increased, and the F-86 fighters operating from the Kimpo airfield near Seoul, when the bombers approached the bombing target with a stream of links

(4 aircraft each) set up a barrier in the "alley of moments", involving them in air battles in order to allow their bombers to successfully complete tasks. Since March 1, 1951, US air raids have
become systematic. But already the first clashes in the air showed that Soviet aviation was not. I used the winter months in vain and learned a lot. So, on March 1, taking advantage of the fact that strategic bombers -

18 V-29s were left without fighter cover (due to weather conditions, the meeting with 22 F-80s did not take place), MiGs inflicted significant damage on 13 V-29s, and 3 bombers made an emergency landing. The Americans took immediate action. Since March 6, 2 F-86 squadrons (334th and 336th) have been stationed at the Suwon airfield north of Seoul. Operating from this airfield, "sabers" in fours (links) went out into the "alley of moments" and, having chosen good landmarks on the ground, at different points expected the appearance of Soviet fighters. As a rule, with good visibility, the take-off of the MiGs was determined by the clouds of dust on the runway at the Andong airfield. On a coded signal, the F-86 units were drawn to the assembly point in the area of the bridges over the Yala and entered into battle with Soviet fighters in order to link them in battle for 20-25 minutes, to allow the bombers to drop bombs in favorable conditions. There were also failures in this tactic. Often "Migs" appeared unexpectedly, and the "Sabers" did not have time to drop the hanging tanks. In this case, they evaded the battle and went towards the sea, knowing that Soviet fighters were forbidden to operate over the Yellow Sea. On some days American aircraft operated with impunity. So, for example, on March 30, 36 B-29 undercover

32 F-86s bombed the bridges at Cheongseongjin, Manpojin and Namsanni without encountering . resistance from Soviet aviation. On April 3 and 4, F-86s shot down 4 MiG-15s without losing a single fighter .

On April 7, 56 strategic bombers under cover of 60 F-84 and F-86 fighters bombed the railway bridge near Andong. The combat order of the bombers consisted of three groups: the first two - 9 aircraft each, the third - 40 V-29s. The first two groups were supposed to divert the MiGs to themselves, and the third to drop bombs on the bridge. 8 fighters were ahead of the combat order of the bombers, breaking away from it by 12-15 kilometers. And yet, 30 "migs" managed to provide significant resistance to the enemy, violating his battle order. The bombing proved to be inaccurate, the bridge remained intact, and American losses amounted to 1 B-2951 . Characteristic for the spring of the 51st was the air battle on April 12th. The same bridges near Andong were the object of the strike. The raid involved 48 B-29s (according to American data -

39 B-29s), 48 F-80 and F-84 fighters, and 32 F-8652s. One of the strategic bombers had a Tarzon bomb on board, others carried 8 bombs weighing 900 kilograms each. Bombing was supposed to be carried out in groups of 8, 16 and 24 bombers at intervals of 2 to 10 minutes. The battle order consisted of a column of links in the "rhombus" formation, with each subsequent link exceeding the one in front by 200 meters53. The first group was supposed to bomb from a height of 5700-6000 meters, the second - 6200-6500, the third - 6700-7000 meters. Target visits were planned under